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TRANSACTIONS

—OF THE—

MEDICAL SOCIETY,

OF THE STATE OF

NORTH CAROLINA.

DIVISION OF HEALTH SCIENCES LIBRARY

FORTIETH ANNUAL MEETING

—HELD AT—

RALEIGH, N. C.,

May 9th, 10th and 11th, 1893.

10234

WILMINGTON, N.. C,
JACKSON & BELL, STEAM POWER PRESSES,

1894.

TIME, PLACE AND OFFICERS OF THE MEETINGS

——OF THE——

Medical Convention and Medical Society

OF THE STATE OF NORTH CAROLINA.

President.	Vice-Presidents.	Secretary.	Treasurer.
Medical Convention, Raleigh, April, 1849.			
F. J. Hill.		W. H. McKee.	
First Annual Meeting—Raleigh, April, 1850.			
J. E. Williamson.		W. H. McKee.	W. G. Hill.
Second Annual Meeting—Raleigh, May, 1851.			
Edmund Strudwick.	C. E. Johnston.	W. H. McKee.	W. G. Hill.
Third Annual Meeting—Wilmington, May, 1852.			
J. E. Williamson,	Thos. N. Cameron, Wm. G. Hill, Johnston B. Jones, N. J. Pittman.	E. B. Haywood.	J. J. W. Tucker.
Fourth Annual Meeting—Fayetteville, May, 1853.			
J. E. Williamson,	Wm. G. Hill, Johnston B. Jones, J. G. B. Myers, N. J. Pittman.	W. W. Harris.	Daniel Dupree.
Fifth Annual Meeting—Raleigh, May, 1854.			
J. H. Dickson.	N. J. Pittman, J. G. B. Myers, J. Graham Tull, A. D. McLean.	S. S. Satchwell.	Daniel Dupree.
Sixth Annual Meeting—Salisbury, May, 1855.			
J. H. Dickson.	J. Graham Tull, Owen Hadley, A. D. McLean, Hugh Kelly.	S. S. Satchwell.	J. B. Dunn.
Seventh Annual Meeting—Raleigh, May, 1856.			
C. E. Johnston.	Marcellus Whitehead, E. R. Gibson, Johnston B. Jones, O. F. Manson.	S. S. Satchwell.	J. B. Dunn.
Eighth Annual Meeting—Edenton, April, 1857.			
C. E. Johnston.	Marcellus Whitehead, O. F. Manson, H. W. Faison, E. R. Gibson.	W. G. Thomas.	J. B. Dunn.

10234

Ninth Annual Meeting—Newbern, May, 1858.

W. H. McKee.	Edward Warren, C. W. Graham, Caleb Winslow, A. B. Pierce.	W. G. Thomas.	J. B. Dunn.

Tenth Annual Meeting—Statesville, May, 1859.

W. H. McKee.	Jas. G. Ramsay, Peter E Hines, J. R. Mercer, Wm. T. Howard.	W. G. Thomas.	C. W. Graham.

Eleventh Annual Meeting—Washington, April, 1860.

N. J. Pittman.	P T. Henry, R. H. Winborne, M. Whitehead, T. S. Leach.	W. G. Thomas.	C. W. Graham.

*Twelfth Annual Meeting—Morganton, May, 1861.

N. J. Pittman.	J. J. Summerell, C. T. Murphy, G. W. Hodges, W. A. B. Norcum.	W. G. Thomas.	C. W. Graham.

Thirteenth Annual Meeting—Raleigh, June, 1866.

J. J. Summerell.		W. G. Thomas.	C. W. Graham.

Fourteenth Annual Meeting—Tarborough, May, 1867.

Will Geo. Thomas.	E. Burke Haywood, R. H Winborne, W. L. Barrow, J. W. Jones.	S. S. Satchwell.	C. W. Graham.

Fifteenth Annual Meeting—Warrenton, May, 1868

S. S. Satchwell.	Hugh Kelly, Geo. A. Foote, Chas. J. O'Hagan, J. H. Baker.	Thos. F. Wood.	J. W. Jones.

Sixteenth Annual Meeting—Salisbury, May, 1869.

E. Burke Haywood.	Thos. E. Wilson, A. B. Pierce, C. T. Murphy, M. A. Locke.	Thos. F. Wood.	J. W. Jones.

Seventeenth Annual Meeting—Wilmington, May, 1870.

Chas. J. O'Hagan.	E. A. Anderson, F. N Luckey, W. R. Sharpe, R. L. Payne.	Thos. F. Wood.	J. W. Jones.

Eighteenth Annual Meeting—Raleigh, May. 1871.

Hugh Kelly.	D. N. Patterson, R. C. Pearson, J. B. Seavy, G. L. Kirby.	Thos. F. Wood.	J. W. Jones.

Nineteenth Annual Meeting—Newbern, May, 1872.

W. G. Hill.	H. W. Faison, R. I. Hicks, G. H. Macon, W. A. B. Norcom.	Jas. McKee.	J. W. Jones.

Twentieth Annual Meeting—Statesvill, May, 1873.

Marcellus Whitehead.	W T. Ennett, William Little, Chas. Duffy, T. P. German,	Jas. McKee.	H. T. Bahnson.

Twenty-First Annual Meeting—Charlotte, May. 1874.

W. A. B. Norcum.	J. B. Jones, R. F. Lewis, C. G. Cox, J. L. Knight.	Jas. McKee.	H. T. Bahnson.

Twenty-Second Annual Meeting—Wilson, May, 1875.

J. W. Jones.	Walker Debnam, J. A. Gibson, Wm. Little, D. N. Patterson.	Jas. McKee.	H. T. Bahnson.

Twenty-Tnird Annual Meeting—Fayetteville, May, 1876.

Peter E. Hines.	Jos. H. Baker, G. G. Smith, T. D. Haigh, J. K. Hall.	Jas. McKee.	H. T. Hahnson.

Twenty-Fourth Annual Meeting—Salem, May, 1877.

Geo. A. Foote.	J. K. Hall, B. W. Robinson, A. A. Holmes, A. A. Hill.	Jas. McKee.	A. G. Carr.

Twenty-Fifth Annual Meeting—Goldsboro, May, 1878.

R. L. Payne.	F. M. Rountree, Richard Anderson, S. B. Flowers, L. A. Stith.	L. J. Picot.	A. G. Carr.

Twenty-Sixth Annual Meeting—Greensboro, May, 1879.

Chas. Duffy, Jr.	J. A. Gibson. Willis Alston, Jas. McKee, A. A. Hill.	L. J. Picot.	A. G. Carr.

Twenty-Seventh Annual Meeting—Wilmington, May, 1880.

J. F. Shaffner.	J. K. Hall, W. C. McDuffie, W. R. Wilson, R F. Lewis.	L. J. Picot.	A. G. Carr.

Twenty-Eighth Annual Meeting—Asheville, May, 1881.

R. B. Haywood.	J. A. McRee, W. H. Lilly, R. H. Speight, W. J. H. Bellamy.	L. J. Picot.	A. G. Carr.

Twenty-Ninth Annual Meeting—Concord, May, 1882.

Thos. F. Wood.	T. J. Moore, D. J. Cain, S. B. Evans, John McDonald.	L. J. Picot.	A. G. Carr.

Thirtieth Annual Meeting—Tarborough, May, 1883.

J. K. Hall.	A. W. Knox, J. M. Hadley, E. S. Foster, John Whitehead.	L. J. Picot.	A. G. Carr.

Thirty-First Annual Meeting—Raleigh, May, 1884.

A. B. Pierce.	F. W. Potter, G. W. Graham, R. Dillard, G. W. Long.	L. J. Picot.	A. G. Carr.

Thirty-Second Annual Meeting—Durham, May, 1885.

W. C. McDuffie.	Jas. McKee, T. E. Anderson, W. H. Whitehead. A. G. Carr.	W. C. Murphy.	R. L. Payne, Jr.

Thirty-Third Annual Meeting—Newbern, May, 1886.

Jos. Graham.	H. T. Bahnson, L. J. Picot, J. L. McMillan, W. W. Faison.	J. M. Baker.	R. L. Payne, Jr.

Thirty-Fourth Annual Meeting—Charlotte, April, 1887.

H. T. Bahnson.	G. G. Smith, J. L. Nicholson, C. M. Poole. H. B. Ferguson.	J. M. Baker.	R. L. Payne, Jr.

Thirty-Fifth Annual Meeting—Fayetteville, May, 1888.

T. D. Haigh.	W. T. Ennett, J. B. Dunn. T. E. Anderson.	J. M. Baker.	C. M. Poole.

Thirty-Sixth Annual Meeting—Elizabeth City, April, 1889.

W. T. Ennett.	W. J. Jones, S. W. Stevenson, Geo. W. Long.	J. M. Baker.	C. M. Poole.

Thirty-Seventh Annual Meeting—Oxford, May, 1890.

Geo. G. Thomas.	R. L. Payne, Jr., Richard Dillard, S. D. Booth.	J. M. Hays.	C. M. Poole.

Thirty-Eighth Annnal Meeting—Asheville, May, 1891.

R. H. Lewis.	S. W. Battle, J. L. Nicholson, W. H. Lilly.	J. M. Hays.	C. M. Poole.

Thirty-Ninth Annual Meeting—Wilmington, May, 1892.

W. T. Cheatham.	T. S. Burbank, J. W. Long, W. H. H. Cobb, W. D. Hilliard.	J. M. Hays.	C. M. Poole.

Fortieth Annual Meeting—Raleigh, May, 1893.

J. W. McNeill.	W. C. Galloway, H. H. Harris, J. M. Hadley, Thos. Hill.	R. D. Jewett.	M. P. Perry.

OFFICERS AND COMMITTEES.

SESSION 1893.

PRESIDENT.

J. W. McNeill, M. D., Fayetteville.

VICE PRESIDENTS.

1st. W. C. Galloway, M. D., Winston.
2nd. H. H. Harris, M. D., Wake Forest.
3rd. J. M. Hadley, M. D., LaGrange.
4th. Thomas Hill, M. D., Goldsboro.

CORRESPONDING AND RECORDING SECRETARY.

Robert D. Jewett, M. D., Wilmington.

TREASURER.

M. P. Perry, M. D., Macon.

ORATOR.

J. Allison Hodges, M. D., Wilmington.

ESSAYIST.

J. M. Faison, M. D., Faison.

BOARD OF CENSORS.

W. C. McDuffie, M. D., Fayetteville.
Thos. E. Anderson, M. D., Statesville.
W. H. H. Cobb, M. D., Goldsboro.

PUBLICATION.

Geo. G. Thomas, M. D., Wilmington.
Thos. S. Burbank, M. D., Wilmington.
Thos. F. Wood, M. D., Wilmington.
Robt. D. Jewett, M. D., Wilmington.

NECROLOGY.

Thos. F. Wood, M. D., Wilmington.
J. G. Riddick, M. D., Youngsville.
H. B. Weaver, M. D., Asheville.

CREDENTIALS.

K. P. Battle, M. D., Raleigh.
J. M. Hays, M. D., Oxford.
A. W. Knox, M. D., Raleigh.

FINANCE.

W. H. H. Cobb, M. D., Goldsboro.
S. D. Booth, M. D., Oxford.
Thomas Stamps, M. D., Lumber Bridge.

The Forty-First Annual Meeting of the Medical Society of the State of North Carolina will be held in Greensboro, May 15th, 1894.

MINUTES

—OF THE—

FORTIETH ANNUAL SESSION

——OF THE——

MEDICAL SOCIETY OF NORTH CAROLINA.

TUESDAY, MAY 9TH.—FIRST DAY.—MORNING SESSION.

The Fortieth Annual Meeting of the Medical Society of the State of North Carolina was convened in the city of Raleigh on the 9th of May, 1893, in the House of Representatives.

The Society was called to order at 11 : 30 o'clock by Dr. James McKee, Chairman of the Local Committee of Arrangements, Dr. J. W. McNeill, of Fayetteville, the President, occupying the Chair, and Dr. Robert D. Jewett, of Wilmington, being Secretary.

Prayer was offered by the Rev. Dr. M. M. Marshall, Rector of Christ P. E. church.

The Hon. Charles M. Busbee delivered the following

ADDRESS OF WELCOME.

Gentlemen of the State Medical Society:

It is to me a grateful duty to comply with the request of my friends of the Academy of Medicine of this city and to extend to you their welcome and their abundant hospitality.

I desire also to give you the cordial salutations of our people. We greet you as the distinguished representatives of a profession which, next to the Christian ministry, is the highest and most honorable.

And I am glad to welcome you as North Carolinians to your capital city. Here historic memories cluster; here progress and prosperity rule the hour; here culture and patriotism abide; here are found a people who sympathize with every endeavor to promote professional and industrial advancement.

We are proud of our city—of its people and its history—and we are especially proud of the physicians who minister to our needs. We render them just tribute and hold them in continuing and affectionate esteem.

We trust that your stay among us may be pleasurable; that your session may be harmonious and productive of good. You have not gathered here in pursuit of political honors or individual fame or personal profit. You have come to deliberate in the interests of humanity; to strive for larger and keener knowledge; to keep even step in the march of scientific progress; to consider questions that underlie and involve the preservation of health and human life. You come as scientists and humanitarians.

As such we salute you with sympathetic hearts. Your profession is one of constant development. New discoveries, new methods, new remedies, for the healing of the people, follow quick upon each other. The fight between completer knowledge and the ills of life goes daily on. More and more frequently is the enemy dislodged in his strongholds. The power to heal is an ever widening power. Marvelous are the resources of the well-equipped modern physician.

The faithful physician keeps abreast of the times—in the vanguard of those who search—alert, inquiring, patient, forgetful of self, always striving for clearer light. The quacks and charlatans who abound and defile, only bring out in brighter radiance the character of the true physician.

And so these annual gatherings are necessary and commendable. Truth is brought to light by the impact of careful discussion; error is detected in the crucible of disputation. The doctor who does not mingle and debate with his brethren becomes a laggard in the race, as useless as the vermiform appendix, and frequently as fruitful a source of danger.

There are many things for this body to consider. Let me mention one. To the physicians of North Carolina do her people look for the preservation of the public health. The Old World is filled with the germs of cholera; the invasion of this Continent by the deadly bacilli of that plague is threatened during the coming months. Upon you do our citizens rely for their protection. Prevention is better can cure. The prophylactic treatment is safest. The State, by recent legislation, has conferred large powers upon the various boards of health, State, county and municipal. These powers, which have been freely but wisely given, are not criticised. Despotic authority is manifestly proper when cholera knocks at our gates or endeavors to enter without knocking. The health boards are controlled and their functions are performed by yourselves.

I believe that the duty resting upon you will be faithfully discharged. You cannot evade the responsibility. I believe that you will meet it with intelligence, with devotion and with success, and that, by the strict observance of all sanitary laws, by measures of wise precaution, by the skillful guarding of the outposts, and by unremitting exertion, you will save North Carolina from the ravages of that dread malady which follows the fatal footsteps of the Wandering Jew.

But I must not unduly detain you. Again, I extend to you the hearty welcome of our physicians and our citizens. I am authorized by our worthy Mayor to tender you the freedom of the city. Your freedom is unfettered save by one

condition. May I say, in the language of Holy Writ, "All that we have is yours, but spare our lives."

On behalf of the Society, Dr. George W. Long, of Graham, made the following

RESPONSE:

It would make me proud on any occassion to act as the representative of this Society. I have been profoundly impressed at the singular hospitality with which it has been received in its migrations from one end of the State to the other. The welcome which the City of Oaks has so graciously extended, through its gifted representative, touches responsive chords in our hearts like those which a mother's welcome stirs within a man who comes back to the Old Homestead with his children.

This Society was born in Raleigh about forty-four years ago under the auspices of McKee, Haywood, Williamson, Strudwick, Johnson and other illustrious names I cannot now recall. We have multiplied into a family of several hundred and we return to honor the place of our birth. We respond gratefully to every sentiment of welcome and to every beautiful word of praise which has been so cordially and gracefully uttered. We represent a majority of the Counties of this Commonwealth, and more than a majority of the healing virtues for the best citizenship on the globe. The forty-four years of our history have not left us behind in the march of universal progress.

Hippocrates emancipated medicine from superstition in a period of great intellectual development in Greece, and this society represents culture as well as skill. He was held in high veneration by the Athenians, and Appelles was born upon the same isle of the sea. What Appelles was as an artist, Hippocrates was as a physician. The history of medicine places our profession among the foremost in rank and usefulness.

In our early history, towns extended free hospitality in our entertainment; but to-day our body is too large for that, and too well paid (?) to accept it. We have not only increased in numbers, but we have reduced quackery, developed skill, increased culture, exalted professional honor, and raised the practice of medicine to a plane of excellence which diminishes disease while it administers relief to the afflicted. In the field of investigation there has been a steady growth as seen in the contributions to medical literature by progressive members. In addition to all this, the society has brought the State together in more fraternal relations, and made the members broader in all that pertains to the profession. Modern means of travel spread diseases, once local, over the entire State. The local doctor is, therefore, too narrow, too limited, and this society meets that by comparing, discussing broad living questions, and by informing and inspiring its members. The competent physician now knows how to treat disease in mountain, in valley, and by the far sounding ocean. Moreover, we have secured legislation in behalf of the unfortunate, and thus our people are protected against incompetent and unscrupulous men. Quarantine seeks to prevent those scourges which invade Asiatic and European countries. Science and State powers are in-

voked, and professional exposure is offered, whenever necessary, to prevent cholera from invading our fair shores and afflicting our happy people. Wholesome sanitary laws and boards of health guard local and internal interests. We are proud of our birth-place and our noble history. The centennial of the Old Homestead last year thrilled our hearts, and we rejoice in her material and social progress, her culture and moral strength. We believe Raleigh is proud of our growth and influence, and we accept her courtesies with the sincerest and most grateful appreciation. Her twenty-five manufactories, her twelve printing places, her splendid schools and churches, her asylums and other State institutions, indicate permanance and future advancement. The very air of this city is balmy and delicious with fragrant flowers. May loveliness adds poetic charm to park and lawn, and to palatial residences reposing among grand oaks and leaf-crowned maples. Her splendid physicians, the culture of her citizens, and her beautiful women and skill and virtue add grace to her society. The blue sky canopies no lovelier city, and the stars of the firmament look down upon no worthier people.

And last but not least of the noble tributes due to this glorious Capitol City, is that springing from the memory of the honored name she bears. It is especially proper to recall that name in this year of memorial festivity and splendor. Far above Spanish title and Italian courage, above the generous gifts of queens and the brave self-sacrifice of the Great Navigator, endeared to North Carolina, by his brilliant life and marytr death, his genius shining like a star over land and sea, the planting of the virgin blossom of his fame on our silent shores, and by the mystic shrine for fadeless worship wherever the English tongue is spoken, stands the name of Walter Raleigh. This, after all, is your noblest title, your richest possession. Like a strain of music, that has lingered among the hills and faltered among the valleys, let that name rise upon every wind that visits our shores. And while the great war guns utter the praise of the gallant sailors of Palos, and by the lakes of the North the wealth, intelligence and beauty of the world gather to honor him who died an Admiral of Spain, let us honor him, who having made the world his debtor, died a poor captive to English indignity and oppression. And from the wave-girt isle of Roanoke, where the sweet memory of Virginia Dare lives forever, and from the milk-white beach, where the gallant keels of Raleigh lingered long ago, will come the eternal spirits of History, the loving children of remembrance, to concentrate and sanctify our devotion.

As the first regular order of business, the Society listened to the reading of the President's Address. (See Appendix.)

On motion, the Address was referred to the Publication Committee and a committee of five, consisting of Drs. J. A. Hodges, J. H. Tucker, W. R. Wood, J. A. Reagan and J. J. Summerell, was appointed to take into consideration the suggestions contained in the Address, and report to the Society before its final adjournment.

Dr. Hodges asked to call the attention of the Society to the fact that applicants for license before the Board did not hear from their examination in time to join the Society, and that in this way the Society, lost a good many members and these applicanis lost the benefit of membership. He offered a suggestion to the

effect that the applicants be allowed to sign and pay their initiation fee before they heard from their examinations, and that incase of failure the money be returned.

Suggestions were offered that the Society's books might be left with the Secretary of the Board of Examiners and the successful applicants who desired to join the Society might pay their fees to that officer. Also that the Board be requested to hold their meetings a few days earlier so that the papers might be acted on before the adjournment of the Society.

Objection was raised to the former, that applicants for membership must appear before the Committee on Credentials; and to the latter, that the law required the Board to meet at the same time with the State Society.

Dr. Reagan stated that he had been informed by the Attorney General that it was only necessary that the Board continue their session until the Society meets; that they could meet before the time for the Society meeting, if they think proper.

Dr. G. W. Long announced the presence on the floor of Dr. John H. Harden, who came as a delegate from the South Carolina Medical Association.

Dr. Harden was extended the courtesies of the floor and invited to participate in the discussions. In responding, he expressed pleasure in being able to meet with the Society, and brought fraternal greetings from his Association.

The President appointed as the Committee on Credentials Drs. K. P. Battle, J. M. Hays and A. W. Knox.

The President appointed on the Committee on Finance Drs. W. H. H. Cobb, S. D. Booth and Thomas Stamps.

On motion of Dr. McKee, the Secretary was instructed to a send a telegram of fraternal greeting to the Louisiana State Medical Society in session at New Orleans.

It was moved that gentleman present who had been previously favorably acted upon by the Committee on Credentials be permitted to sign the Constitution. Adopted.

Dr. Summerell offered the following resolution, and the Secretary wss instructed to forward a copy thereof to Dr. Pittman by Telegraph:

Resolved—The Medical Society of the State of North Carolina having heard of the illness of our venerable fellow member, Dr. N. J. Pittman, of Tarboro, with sorrow do hereby extend to him our heart-felt sympathy and do hope that he may be soon restored to his accustomed health.

The Secretary read a letter from Mrs. Oscar Gregory, stating that her husband, Dr O. Gregory, a member of this Society, was detained at home on account of complete paralysis of one side, and expressing his earnest interest in and best wishes for the welfare of the Society.

On motion of Dr. Booth, Dr. O. Gregory, was released from the payment of all dues.

An invitation was read from Dr. William R. Wood, the Superintendent of the North Carolina Insane Asylum. The thanks of the Society were returned to Dr. Wood for the invitation.

On motion the Society adjourned until 3 o'clock p. m.

FIRST DAY—AFTERNOON SESSION.

Society called to order by the President at 3 o'clock.

Report on Practice of Medicine was called for, and was read by Dr. Anderson, in the absence of the Chairman, Dr. E. M. Summerell. (See Appendix.)

On motion the paper was referred to the Committee on Publication.

Dr. Thos. Stamps then read a paper on Cerebro-spinal Meningitis. On motion, it was referred to the Committee on Publication.

Dr. A. M. Ballard, read a paper entitled, Vis Naturae et. Vis Medicatrix Naturae. (See Appendix.)

During the reading of the paper, the President interrupted the author to say that he was called away to his home, and no vice-president being present, he requested Dr. W. H. H. Cobb to occupy the chair during his absence.

Dr. Ballard's paper was discussed by Dr. O'Hagan, and referred to the Committee on Publication.

Dr. R. H. Lewis introduced Dr. Joseph A. White, of Richmond, Va., who was present as a delegate from the Virginia Medical Association. He was invited to a seat with the Society and to participate in the proceedings.

Dr. White accepted the courtesies extended him and expressed much pleasure in being present. He brought fraternal greetings from his Association.

Dr. R. H. Whitehead, as Chairman of the Section read a report on Gynaecology. (See Appendix.)

The paper was discussed by Drs. Long and Hodges, and referred to the Committee on Publication.

Messrs. J. H. Bobbitt, J. I. Johnson and B. W. Hunter, all of Raleigh, presented their certificate as delegates to the Society from the North Carolina Pharmaceutical Association, and were invited to take part in the deliberations of the Society.

The Secretary read an invitation from the Ladies' Memorial Association in Metropolitan Hall. Also one from President Alex. Q. Holladay, of the College of Agriculture and Mechanic Arts, inviting the Society to visit that Institution.

The Secretary was instructed to write to the Secretary of the L. M. Association expressing the thanks of the Society for her kind invitation and accepting the same. Also, that he write to President Holladay declining his invitation with thanks, the great press of work rendering it impossible for the Society to accept it.

Dr. Hodges stated that there were no members of the Pittman Prize Committee present, and that there were several essays presented in competition for that prize, and asked that a new committee be appointed; or that two members be appointed to act with one of the present Committee who would be present tomorrow.

The President appointed Drs. R. H. Whitehead and J. F. Miller to act with Dr. H. T. Bahnson on the Committee on Pittman Prize.

Dr. Hodges called the attention of the Society to the North Carolina Medical Journal, stating that he felt less hesitation in doing so, since the President in his address had spoken of the duty of the Society to the Journal, and especially as it was the official organ of the Society. He expressed the hope that the

members of the Society would co-operate with the Editors of the JOURNAL in bringing the work done by North Carolina physicians and snrgeons more to the notice of the world, and this they could do by writing for the JOURNAL and reporting their cases. There is just as good work done in this State as there is anywhere in the world, if the men who do the work would only let their lights shine. The Editors had demonstrated to their satisfaction that they would have no trouble in securing all the original matter they could use from eminent men in the North, but it was their aim and determination to make known the achievements of our home talent.

Dr. R. H. Lewis endorsed the remarks of Dr. Hodges and highly complimented the present management of the JOURNAL, for the energy and enterprise displayed in improving it, and thought the members of the Society should support it, not only with their contributions of papers, but also with their subscriptions.

The Secretary read a communication from Mr. Henry T. Hicks, a druggist in the city of Raleigh, enclosing an article which he asked to have read before the Society.

On motion, the Secretary read the paper written by Mr. Hicks as follows:

THE PHARMACIST AND THE PHYSICIAN.

During the last few years there has been a gradually increasing appearance of strained relations between the Pharmacist and the Physician, and unfortunately in a great many cases it is not without reason.

The Apothecary assumes the role of doctor and treats all manner of ills and even ventures upon surgery sometimes.

The Physician, on the other hand, carries a stock of tablets and granules for trade profit or to coerce the Apothecary. And also prescribes many different kinds of ready made prescriptions—proprietary scientific compounds so-called.

The causes of these conditions appears to the writer to be as follows: The Pharmacist is partly led and partly driven into "counter-prescribing." His desire to accommodate a friend or customer, or perchance a poor person who really has no money to pay a physician, and who does not want to be an object of charity, leads him to "counter-prescribe." His desire for gain may also sometimes lead him into this evil.

He is driven to "counter-prescribe" sometimes by a combination of the foregoing causes, but more frequently by the accumulation of proprietary remedies which physicians have prescribed and which are highly recommended by physicians all over the country, for all manner of ills, but which have ceased to be in demand and are dead-stock and must be "worked off."

The physician uses these ready made prescriptions: (1) Because he has been so busy studying the nature and causes of disease that he has allowed some one else to write his prescriptions in advance and tell him when to use them (2) It is far easier to write for a compound medicine by a simple name than to specify each ingredient and its amount e.g. Paregoric, Elixir Adjuvans, etc. (3) He has been led to believe that a large proportion of pharmacists are not competent or have not the apparatus for compounding elegant and scientific preparations.

The remedies for these abuses are easier to prescribe than to administer, but it may be done if we attempt it in earnest.

The pharmacist should have good education and thorough training in his special branches. He should have his store fitted up with due regard for accurate and rapid work. He should have a good supply of chemical apparatus and analyze his medicines and guarantee their purity and strength.

He should avoid "counter-prescribing" in all forms, beginning with that form in which he is required to diagnose, and finishing with that form in which the customer diagnoses for himself.

The physician should extend to the competent pharmacist the privilege of dispensing his own preparations of like essential formula when proprietary medicines are prescribed. He should not carry a stock of medicines for profit or coercion; but instead use every opportunity, consistent with professional dignity, to express his approval or disapproval of the true or "quack" pharmacist, respectively. He does this in the case of the "quack doctor,' then why not in that of the druggist?

That these remedies can be applied admits of no doubt.

We must correct these evils, or in a few years they will assume such proportions that what is practiced now to a very limited extent will become common, viz: the physician will carry a full line of tablets and granules, and the pharmacist will have a free consulting "doctor." Either of these conditions would be thoroughly unprofessional and unbusiness-like.

Respectfully submitted,

HENRY T. HICKS,

Raleigh, N. C.

The report on Obstetrics being called for, was presented by the Secretary, and in the absence of Dr. J. H. Marsh, the Chairman of the Section, was read by title and referred to the Committee on Publication.

By invitation, Dr. J. A. Hodges exhibited a case sent to him for diagnosis, and which he said was one of those cases of anæmia with which members were so familiar. The anæmic murmur was very distinct. The boy had been taking digitalis and iron in large quantities, and he presented the case only to show the uselessness of pouring in such large doses of iron as the text-books advocate in all these cases. The boy had not improved at all under the iron treatment. The bowels were constipated by it and the secretions blocked up. He had never had any form of low fever or any constitutional disease to lead to this condition. He would suggest as the proper external treatment, massage and cold water baths. As internal treatment, he would suggest digitalis or strophanthns with the bitter tonics, and the syrup of hydriodic acid.

The Committee on Credentials made a partial report. Adopted.

Dr. Jones made a verbal report of a case of Peritonitis.

On motion, the Society adjourned.

FIRST DAY.—EVENING SESSION.

The Society was called to order by Second Vice-President, Dr. H. H. Harriss, at 3 : 30 o'clock.

Dr. E. Burke Haywood read a report of a Case of Cerebro-spinal Meningitis. Referred to the Committee on Publication.

Dr. D. T. Tayloe opened the Annual Debate by the reading of a paper on Rheumatism.

The courtesies of the floor were extended Drs. J. W. Chambers, Edwin Geer and Randolph Winslow, delegates from the Medical and Chirurgical Faculty of Maryland.

Dr. Spruill was also invited to take part in the deliberations of the body.

SECOND DAY.—MORNING SESSION.

The Society was called to order at 10 o'clock by Vice-President Harriss.

Dr. J. T. Nicholson read a report of a Case of Cæsarean Section, with Recovery of Mother and Child.

Referred to the Committee on Publication.

Dr. J. W. Long read a paper entitled Appendicitis Viewed from a Personal Standpoint.

The paper was discussed by Drs. Booth, Lewis, Whitehead, Chambers, Haywood and Winslow.

On motion, the paper was referred to the Committee on Publication.

During the reading of the paper Governor Elias Carr entered the Hall. The proceedings were suspended and the Society welcomed their distinguished guest by rising. The Governor expressed great pleasure at having the Society meet in the Capital City, and, after alluding to the importance of the medical profession to the well-being of the State, invited the members to call upon him at the Mansion.

Dr. Jones presented the resignation as a member of the Society of Dr. James Spicer. He said he was aware he was behind in his dues, but he (Dr. J.) was ready to pay them.

On motion, Dr. Spicer's resignation was accepted with regret.

Dr. J. G. Ramsay arose and presented to the Society a set of the bound volumes of its Transactions, which the Society accepted with thanks.

The President announced that the hour had arrived for the

CONJOINT SESSION WITH THE STATE BOARD OF HEALTH.

Dr. H. T. Bahnson, President of the Board of Health, took the Chair and called the Conjoint Session to order.

Dr. R. H. Lewis, Secretary of the Board of Health, read his Annual Report.

It was moved that the report be accepted. Adopted.

On motion, the Conjoint Session was adjourned, and the Society was called to order, with President McNeill in the Chair.

The Committee on Credentials made a partial report, which was adopted.

The President appointed Drs. P. L. Murphy, I. J. Riddick, J. W. Long, M. H. Fletcher and Frank Duffy to compose the Committee on Nominations.

On motion of Dr. R. H. Lewis, Dr. J. G. Ramsay, of Rowan county, was unanimously elected an Honorary Fellow of this Society.

The Secretary read an invitation from Prof. W. J. Young, Principal of the North Carolina Institution for the Deaf and Dumb and the Blind, asking the members to visit his Institution.

The invitation was accepted and the Secretary instructed to communicate with Professor Young.

Dr. T. E. Anderson presented the following

REPORT OF THE BOARD OF CENSORS.

In the case of Dr. Jas. T. Strickland, against whom charges were preferred for unprofessional conduct and want of integrity of character, We, the Board of Censors, after long and careful consideration of all the written evidence submitted to us, which was very voluminous, respectfully report that said charges were not sustained by the evidence submitted, as the counter evidence was far in excess of that produced by the prosecution. But that a careful survey of his general and professional character, by disinterested fellows of this Society, warrant us in recommending that his name be dropped from the roll of membership of this Society.

That, in the case against Dr. J. B. Robertson, of Clayton, formerly of Winston, wherein he was suspended by this Society, at its last annual meeting, for violation of the Code of Ethics in the use of a secret nostrum for the cure of drunkenness and morphine habit; that Dr. Robertson, having appeared before this Board and purged himself of said violation, we recommend that he be reinstated to membership in this Society.

THOS. E. ANDERSON,
WM. H. H. COBB,
Board of Censors.

On motion, action on the report was made the special order of business for 3 o'clock at the afternoon session.

Adjourned to 3 o'clock p. m.

SECOND DAY.—AFTERNOON SESSION.

The Society was called to order at 3 o'clock.

The Secretary read the following report of the committee in regard to the admission of new members :

"The committee to whom was referred the various motions concerning the admission to this Society of the new licentiates of the Board of Medical Examiners, beg leave to report that, after due deliberation, we recommend the adoption of the following resolutions:

"*Resolved*, That the Board of Medical Examiners be requested to hold its annual meetings on such a day of the week preceding the meeting of this Society as to enable them to complete all of their examinations on the second day of the annual sessions of this Society.

"*Resolved*, That licentiates who desire to join the Society, may, upon approval of the Committee on Credentials, be allowed to sign the Constitution before leaving the city, and to complete their membership by the payment of the initiation fee at any time prior to, and including, the first day of the next ensuing meeting."

The above are the amended resolutions, and as thus amended the report was adopted as a whole.

The hour of 3:30 o'clock having arrived, the Society adjourned and attended in a body the memorial exercises in honor of the Confederate dead.

The Society reassembled at 5 o'clock.

The President appointed Drs. C. J. O'Hagan and J. P. Munroe as members of the Committee on the Duffy Prize, to act in the absence of two of the regular committee.

The Committee on Credentials made a partial report. Adopted.

Dr. Booth offered the following

REPORT OF THE FINANCE COMMITTEE.

RALEIGH, N. C., May 10th, 1893.

Your Committee on Finance, having examined the books and accounts of the Treasurer, find them correct, as follows:

Balance on hand, May 18th. 1892	$1,339.85
Amount paid out as per vouchers to date	836.77
Balance now on hand	$503.08

The Committee recommend an assessment of $2.00 per capita for the ensuing year. And further recommend that the salary for the Secretary and Treasurer for the ensuing year be the same as it now is.

S. D. BOOTH,
R. H. STANCELL,
WM. H. H. COBB,
Committee.

The report was, on motion, adopted.

The report of the Board of Censors was called up as the special order of business. The first part of the report, regarding the reinstating of Dr. Robertson, was adopted. Dr. Anderson, of the Board, having stated that Dr. Robertson had expressed regret for his violation of the Code and had promised that he would not use the remedy.

There was some discussion in regard to the last part of the report. Dr. Anderson said that the conclusions of the Board had been arrived at after mature deliberation and thorough investigation. He stated that while the exact charges brought against Dr. Strickland, i. e., the specific acts charged against him, had not been proven in the investigation, other facts regarding the accused's character had come to light, on account of which the Board recommended his expulsion from the Society.

It was held by several members that it would be an injustice to take this action, and expel Dr. Strickland without giving him an opportunity of defending himself and refuting these later charges against his character. It appeared, after repeated questioning, that while Dr. Strickland had been notified of the former specific charges, and had come before the Board armed with testimonials as to his good character, endorsed by the county clerk and with the county seal attached, he had not had sufficient opportunity to defend himself against these later charges. It was held by several members that no matter if the charges were absolutely true, the accused should have the opportunity of answering them before he was convicted.

Other members contended that the Board of Censors were a court established by the Society, and that they had carefully investigated this matter, and their report should be accepted.

It was moved that the report be received and adopted.

An amendment was offered that the report be received, and that a copy be sent to Dr. Strickland, and he be notified to present himself at the next meeting of the Society to answer the charges brought against him, and prove his innocence, failing in which, his name would be dropped from the roll of membership.

The amendment was adopted.

In reply to a question the President said Dr. Strickland would continue a member until the next meeting, when he would have an opportunity of answering these charges.

On motion of Dr. Long, the report as a whole, as amended, was accepted.

The special order of business from last meeting, being the discussion on the proposed new Constitution, was taken up.

On motion, it was decided to act on each Article and Section seriatim.

Articles I. to V. were adopted as proposed by the Committee.

Article VI. Section 1. Adopted.

Section 2. Objection was raised by several members, old and young, to this Section, in that it took from some of the oldest and most experienced members of the Society rights which they had enjoyed from the organization of the Board of Examiners. There were no remarks made in defence of the Section, and by unanimous vote it was stricken out.

Section 3. Adopted as Section 2.

Articles VII. and VIII. were adopted in full.

Article IX., Sections 1 and 2 were adopted.

Sections 3 and 4. It was moved to amend these sections by striking out

Section 4 and by adding to Section 3 the words "and his name be stricken from the roll."

After some discussion, the motion to amend was lost, and Sections 3 and 4 were adopted.

Articles X., XI. and XII. were adopted.

Dr. Knox moved to reconsider the action by which Section 4 of Article VII. was adopted. Carried.

He then moved that the last sentence, which provided that "This report shall be put to a vote without debate," be stricken out.

Dr. Roberts opposed the amendment because it was the object of the Board of Censors to relieve the Society of the work and unnecessary expenditure of time that an investigation and discussion of the evidence would require. He thought that in every case that came up a discussion would result, which would occupy much valuable time that ought to be given to scientific matters. He thought that the points in any case could not be as thoroughly considered in an open debate as they could by the Board of Censors, who would study all the evidence at leisure.

Dr. Knox thought a sufficient answer to Dr. Roberts' objection would be found in the position in which the Society came near placing itself to-day in pronouncing judgment upon a member when he had not had sufficient opportunity of proving his innocence. The amendment to strike out the last sentence was carried.

The Section, as thus amended, was then adopted.

A motion to reconsider the vote by which Section 2 of Article IV. was adopted was carried unanimously.

It was then moved to amend the Section by inserting after the word "ballot" the words "on the afternoon of the second day of the meeting." Adopted.

The Section, as amended, was then adopted.

On motion, further action on the Constitution was postponed to a later session.

The Society then adjourned.

SECOND DAY.—EVENING SESSION.

The Society was called to order at 8 o'clock.

Dr. J. A. Hodges, the Annual Orator, was introduced by the President, and in the presence of a large and highly appreciative audience, among them being many ladies and gentlemen of the city, delivered

THE ANNUAL ORATION.

At the close of the oration, it was moved that the Board of Health have printed 500 copies of the address to be distributed throughout the State. The motion was carried.

On motion, the address was referred to the Committee on Publication.

The Society then adjourned to 9 o'clock to-morrow morning.

THIRD DAY.—MORNING SESSION.

The Society was called to order by the President at 9 o'clock.

Dr. R. A. Patterson read a paper on Diphtheria.

The paper was, on motion, referred to the Committee on Publication.

Dr. Murphy presented the following

REPORT OF THE COMMITTEE ON NOMINATIONS.

Orator—Dr. E. G. Moore, Toisnot.

Essayist—Dr. J. Howell Way, Waynesville.

Board of Censors.—Dr. W. C. McDuffie, Fayetteville; Dr. T. E. Anderson, Statesville; Dr. W. H. H. Cobb, Goldsboro.

Obituary Committee.—Dr. J. A. Hodges, Wilmington; Dr. W. C. Galloway, Winston; Dr. W. J. Jones, Goldsboro.

Committee on Publication.—Dr. Geo. G. Thomas, Wilmington; Dr. Thos. S. Burbank, Wilmington; Dr. W. J. Love, Wilmington; Dr. R. D. Jewett, Wilmington

Delegates to the American Medical Association.—Drs. C. J. O'Hagan, Willis Alston, A. W. Knox, M. R. Adams, S. J. Montague, W. P. Beall, R. L. Gibbons, J. P. Munroe, Albert Anderson, Hubert Haywood, F. W. Hughes.

Delegates to the Southern Surgical and Gynaecological Association.—Drs. W. D. Hilliard, Charles Duffy, W. J. H. Bellamy.

Delegates to the Virginia Medical Society.—Drs. R. H. Stancill, D. A. Stanton, R. H. Whitehead, W. H. Jackson, H. H. Dodson.

Delegates to the South Carolina Medical Association.—Drs. W. L. Crouse, Thomas Stamps, A. M. Lee.

Delegates to the American Public Health Association.—Drs. R. H. Lewis, J. L. Laxton, K. M. Ferguson.

Delegates to the British Medical Association and International Medical Congress.—Drs. N. J. Pittman, J. G. Ramsay, D. G. Caldwell, S. Westray Battle, Karl von Ruck.

Delegates to the North Carolina Pharmaceutical Association.—Drs. E. R. Michaux, W. H. McKinnon.

P. L. MURPHY,
F. DUFFY,
J. W. LONG,
M. H. FLETCHER,
Committee.

The report was accepted.

On motion of Dr. Pool, the Secretary was instructed to write to Dr. R. L. Payne and request him to send his paper on Errors in Diagnosis to the Committee on Publication.

Dr. J. P. Munroe presented his

REPORT ON SURGERY.

The paper was referred to the Committee on Publication.

The President announced that the hour had arrived for the election of officers of the Society for the ensuing year, whereupon he appointed Drs. Cheatham, Stamps and Alston as tellers.

Nominations for President were declared in order.

Dr. O'Hagan placed in nomination Dr. W. H. H. Cobb, of Goldsboro.

Dr. Powers put in nomination Dr. H. H. Harris, of Wake Forest.

The claims of both these gentlemen were very ably presented to the Society by their respective supporters, and there were many seconds to each nomination.

Dr. Summerell nominated Dr. James McKee, of Raleigh, but his name was withdrawn, because, not having attended two of the last three meetings of the Society, he was ineligible for the office of President.

The following was the result of the ballot: Total number of votes cast 122, of which Dr. Cobb received 75, Dr. Harris 46, and Dr. Murphy 1.

Dr. Wm. H. H. Cobb, of Goldsboro, was declared duly elected President of the Society for the next year; and, on motion of Dr. Powers, the election was made unanimous.

Nominations for four Vice-Presidents was declared in order.

It was moved that all four Vice-Presidents be balloted for at the same time, and that they rank in accordance with the number of votes received, the candidate receiving the highest number to be First Vice-President, etc.

The following were placed in nomination:

Dr. Willis Alston, Littleton; Dr. M. H. Fletcher, Asheville; Dr. J. W. Long, Randleman; Dr. W. O. McDowell, Scotland Neck; Dr. J. A. Hodges, Wilmington; Dr. R. W. Tate, Greensboro.

The following was the result of the ballot: Dr. Hodges received 64 votes, Dr. Tate 62, Dr. Alston 58, Dr. Fletcher 54, Dr. McDowell 40, Dr. Long 16, scattering 10.

Dr. Hodges was declared duly elected First Vice-President, Dr. Tate Second Vice-President, Dr. Alston Third Vice-President, and Dr. Fletcher Fourth Vice-President.

Nominations for Secretary being declared in order, Dr. R. D. Jewett, of Wilmington, was nominated.

There being no further nominations, on motion, the rules were suspended and Dr. Jewett was unanimously elected by a rising vote.

Dr. M. P. Perry was nominated for Treasurer, and there being no further nominations, he was unanimously elected by a rising vote.

On motion, the Society went into an election of a place for the next meeting. An invitation was read from Mr. G. W. Blacknall for the next meeting to be held in Morehead City, and one from the physicians of Greensboro, asking the Society to meet in that city. Tarboro was also placed in nomination. There being no further nominations, a vote was taken and Greensboro was chosen by a large majority as the place for the next meeting.

After some discussion, the time for the next meeting was made the third Tuesday in May.

Dr. H. T. Bahnson offered the following

REPORT OF THE COMMITTEE ON THE PITTMAN PRIZE.

The Committee on the Pittman Prize beg to submit the following report: Four essays have been presented to us. The conditions imposed by Dr. Pittman require that the paper to which the prize is awarded shall be of scientific merit, and original. Fully realizing the difficulty of attaining this high standard of excellence, and confessing that none of the papers presented come up to our ideal, we are, nevertheless, constrained, both by the general excellence of two of the essays, and in the hope that our action will stimulate future aspirants to greater exertion, to recommend that the prize of $100 be equally divided between the authors of the following essays: "Omnis Cellula e Cellula," and "Hepaticus," written by Drs. J. M. Hays, of Oxford, and Robert L. Gibbon, of Charlotte, respectively.

Respectfully submitted,

HENRY T. BAHNSON,
J. F. MILLER,
R. H. WHITEHEAD,
Committee.

On motion, the report was adopted.

On motion of Dr. Bahnson, the two unsuccessful papers were referred to the Committee on Publication, with the consent of the authors.

On motion of Dr. Long, the discussion on the new Constitution was taken up.

Dr. Long moved to reconsider the vote by which Sections 1, 2 and 3 of Article VIII. were adopted. Carried.

He then moved that these sections be stricken out, and that the following be substituted:

Section 1. The President or Secretary shall, ninety days before each meeting, by circular letter, invite each member of the Society to contribute a paper at the next meeting of the Society, and inform the Secretary thirty days prior to the meeting of the title of his paper.

He claimed that in this way the Secretary would be able to arrange his programme better than by the present plan. He stated that most of the successful societies had adopted this plan of voluntary papers, citing the Southern Surgical and Gynæcological Association, the Tri-State Medical Association, and several others.

The amendment was opposed by several members, who took the ground that the Society would suffer rather than be benefited by the adoption of the amendment. The Society had worked on that plan, and at the time of meeting there were scarcely any papers to be presented to the Society. An ample demonstration of the value of the section system was the reading to-day of Dr. Munroe's paper, which would never have been written had he not been appointed on the Section on Surgery.

In reply to a question, Dr. Long explained that the object of his amendment was to do away with the chairmanships of sections.

The fact of the above-named societies depending upon voluntary papers, was

answered by their being composed, in great part, of specialists who were eager to take that method of gaining a reputation, but that, in a society like this, what was everybody's business would prove to be nobody's.

Dr. Hines thought no move the Society had ever made had done so much for it as the adoption of this system of sections.

The amendment being put to the house, was defeated, a large majority voting against it.

The sections were adopted as they stood.

Dr. Battle moved to reconsider the vote by which Section 4 of Article IX. was adopted. Carried.

He then moved that the Section be amended by inserting after the word "meeting" the words "after endorsement by the Committee on Credentials and".

The amendment was adopted, after which the Section, as amended, was adopted.

The By-Laws were then read, and, on motion, the Constitution and By-Laws, as proposed by the Committee and as amended, were adopted as a whole.

On motion of Dr. Bahnson, the Secretary was instructed to have the new Constitution printed in pamphlet form and a copy sent to each member within sixty days from the adjournment of the Society. They were to be bound in uniform size with the transactions of this year.

Dr. Reagan submitted the following

REPORT OF THE COMMITTEE ON THE PRESIDENT'S ADDRESS.

Your Committee to whom was referred the President's Address, beg leave to submit the following as their report: They would recommend the adoption of his suggestions that there be a permanent committee of five appointed to act in concert with the State Board of Health, whose duty it shall be to arrange, and urge upon the Legislature the necessity of passing, laws regulating hygiene and sanitary measures which are necessary for keeping from our State all foreign contagious diseases, and properly controlling all domestic outbreaks, so as to preserve the health and lives of our people.

We would also recommend that the law be so changed as to make it compulsory to have physicians elected to the office of coroner, and that the county superintendents of public health be relieved from making post-mortem examinations, and that that duty be performed by the coroner—and other laws that are necessary for the good of the people and the medical profession.

Respectfully submitted,

J. A. HODGES, M.D.,
J. A. REAGAN, M.D.,
J. H. TUCKER, M.D.,
Committee.

The report was adopted.

The President stated that the hour for special memorial exercises, as had been adopted at last evening's session, had arrived.

MEMORIAL EXERCISES.

Dr. Hines offered the following resolution, which was unanimously adopted:

Resolved, That we have heard with sorrow of the death of one of our oldest, truest and most devoted members, Dr. S. S. Satchwell, of the county of Pender.

Resolved, That a page be appropriated in the records to the memory of Dr. Satchwell, giving the dates of his birth, death and admission to this Society.

Resolved, That a copy of these resolutions be forwarded to the family of Dr. Satchwell.

In offering these resolutions, Dr. Hines said that we have had no man who was more devoted to the welfare of the Society, or who had done more for it. He was one of the first members, and when Dr. Hines joined the Society, in 1855, he found Dr. Satchwell a very prominent member. His first relation with Dr. Satchwell began in 1863, when the deceased was in charge of one of the State hospitals established at Wilson. He spoke in the very highest terms of the excellent management of this hospital, which equaled, if it did not excel, that of the Johns Hopkins Hospital of to-day. There was no man truer or more devoted to the Confederacy or to the State of North Carolina. He was an earnest student of hygiene and a public benefactor. He was the originator and founder of the Board of Health. He was the first man to appear before the Legislature and bring to the notice of that body the great importance of such an organization in the State. He thought our Society was indebted to but few men more than to Dr. Satchwell, and we ought to hold his name in very grateful remembrance.

Dr. O'Hagan felt called upon to add a word of praise and commendation for our deceased friend and brother, Dr. Satchwell. He and Dr. Satchwell had been friends for fifty years, and during all that time there had been no break in their friendship. If there was anything that commanded his love and admiration it was the Medical Society. He was one of the few who stood at its cradle in the days of its infancy. As to his professional ability, either as physician or surgeon, no remarks were necessary. It is universally admitted that it was of the first order. But there was one peculiarity about him of immense value to this Society. He was active and enthusiastic, and inspired those about him with enthusiasm. He never came empty-handed to the meetings of the Society, and he was a most constant attendant. At the last meeting at Wilmington, one year ago, he read a valuable paper. When he died there was a vacuum made that he fears will not soon be filled.

REMARKS ON DR. THOMAS F. WOOD'S LIFE AND CHARACTER.

Dr. Thomas said: When death comes and takes away from us a loved companion and friend, the tide of life seems to stop in its ebb and flow. The past is a memory, the present is complete in the recognition of death and personal loss, and the future seems so purposeless, that we shun its contemplation. It is a season of grief, surely; but if it serves as well to awaken us to a grateful appreciation of the life and companionship of the one who is at rest, the grief is tempered, and the benefits may be great. When I realized that the life of suffering of Dr. Wood had come to a sudden close, I knew more than I can tell this

Society how I loved the man and how I should miss him. It was my especial privilege, as many of you know, to have been his intimate associate in many ways, and I was in the main his physician in the latter years of his life. Living so closely with him during these years, I came to recognize the depth and strength of his character. He was a man of high ideals and lived up to them. The aspirations of his life pervaded all of his labor. They were not the selfish ambitions of a time-server or place-seeker. He worked for the best, because it was the best as he knew it, and his strict adherence to principle was not always the popular thing to do. I had occasion more than once to stand with him against measures that concerned his friends and mine—but he never failed to come up to the measure of a well-rounded manhood. He was gentle and affectionate in his nature, and, while he boldly denounced wrong-doing, he never lacked the tenderest charity for the short-comings of his fellow-men, or failed to help the weak-hearted or wavering soul.

He came into the work of his life with no help except his own intellect, and his achievements in the departments he essayed to enter bear testimony to his excellence.

I had occasion to read, a few days since, some pleasant and wise words of advice delivered by Dr. S. Weir Mitchell to a class of medical students. Among other things, he told them they would find diversion and benefit from the study of some branch of natural history. As I read after him, I thought of Dr. Wood. He began early the study of botany. It pleased him, and he followed it eagerly, and he grew to a place of authority on all matters connected with the science, certainly so far as the flora of his own region was concerned, that were second to none in the South. He was measurably a pupil of the late Dr. Moses A. Curtis, and cherished for this gentle and earnest man a great admiration and affection. At one time he purposed to reissue Dr. Curtis' "Woody Plants of North Carolina," with many useful additions of his own. I think his ill-health put a stop to this work. This knowledge of botany, added to his professional training, brought him into notice as a worthy person to take a position on the Committee for the Revision of the Pharmacopœia. Mr. Charles Rice, the able and learned Secretary of this Committee, in writing of his death, said that his place would be hard to fill.

His journeys in the country, or an occasional jaunt in the woods near Wilmington, always served him for a day or hour of study. To him the simplest flower, the humble weed, the waving grass, the stately trees—all of them were loved acquaintances. They spoke to him of the wonders of the study he so earnestly followed; and, besides elevating his mind, improving his memory and enlarging his knowledge, they told him, in no uncertain terms, of the greatness and wisdom of the God whom he humbly worshipped.

His career as a journalist was the result of a marked literary taste, and it was signally successful. In the face of numberless obstacles and against great odds, he erected and sustained the MEDICAL JOURNAL of your State, and made it worthy to be the official organ of this Society. His love of letters led him into all the fruitful realms of this delectable study, and he attained to decided promi-

nence among the brothers of this guild. I had the opportunity of reading a brief history of his life, which he wrote for his children. It began its recital with his birth in Wilmington, recounting the period of his boyhood days, his schooling, his companions, brief accounts of the older people of that time, noting also the locations where they lived, and connecting with them bits of local history. It told, in its simple way, the struggles of his youth and early manhood, his first attempts to study medicine, his necessities driving him into a drug store as a clerk to sustain himself—(and, by-the-way, this knowledge, gained under a careful employer, was of great benefit to him afterwards)—his final arrangement to study continuously under one of the physicians of Wilmington, as was the custom then. It told of the outbreak of the War and of the stirring events preceding it, its interruption of his studies, his entering the army and his life as a private soldier. He was enabled, so his story tells us, to resume his work in medicine, and became a student in the Medical College in Richmond. From this place he was appointed to the position of Assistant Surgeon in the Confederate Army. Thence it told of the great struggle, the deeds of bravery of which he had personal knowledge, and of the men who did them. The memory of these days and of his companions of that trying time, he always cherished with tender affection, and his voice and manner bespoke the earnest pride with which he recalled them. The book is a charming bit of history and a wonderful exposition of his ability of judging men and estimating their worth.

Herein lay much of his power. He was possessed of a sterling character, and chose well his friends and those whom he expected to help in the causes he espoused.

His benevolence was large, often trenching largely upon his means. There are many men, women and children in his native town who yet silently thank him for aid tenderly furnished them in hours of great need.

It is needless, in this presence, to say aught of his labors for this Society, or its offsprings, the Board of Medical Examiners and State Board of Health. You all know that he was instant in season and out of season in his earnest work for the best interests of them all.

Most of you knew him. And to know him was to respect and love him. His life is worthy of emulation, for at its end it left behind a savor of high-minded honesty, purity and righteousness.

Surely he has his reward. We love his memory and speak with tender affection of his days with us. In the full confidence of his Saviour's tender mercies, he laid down his work—and is at rest.

Dr. Henry T. Bahnson, of Salem, said: I can add but little to the eloquent tributes of the gentlemen who have preceded me. In all that elevates and ennobles the human race, Dr. Thomas F. Wood was a shining example. He was one of those rare men who stand out in the history of a century to show that the grace of God does, even now, conform fallen man to His Divine likeness. The mainspring of his character was charity—that God-given inspiration, which raises man to the level of the angels, and stamps the perfect type of enlightened civilization—a Christian gentleman. Esteem, regard—all ordinary terms fall far

short of expressing the feeling inspired by intimate association with Dr. Wood. He loved—he was beloved!

His daily life, his walk and conversation, are an inspiration; his professional labors, his work in our Society and Board of Health, sanctify our efforts to prevent and relieve human suffering; the remembrance of his virtues, his unobtrusive gentleness, his child-like faith, his patient endurance, even unto death, are a benediction.

He has gone to his reward. Let us emulate his example and follow in his footsteps.

These gentlemen were followed by Drs. Hines, Way, Hadley, Carr, Picot, Hodges, Lewis and Long, who spoke in loving terms of their deceased friend and fellow-member, who, from the time he first joined the Society, in 1867, had never ceased to labor earnestly and untiringly for the welfare and advancement of the Society. They referred especially to his readiness to extend a welcoming hand to the younger members, and to those excellent traits of character which had made him so conspicuously *a true man.*

Dr. Hodges suggested, and Dr. Lewis put it in the form of a motion, that the Society have made a life-size bust portrait of Dr. Wood, to be presented to the State Library, and that $100 be appropriated to defray the expenses of the same, the portrait to be delivered to the Society at its next meeting.

The motion was carried unanimously.

On motion, the following were appointed as a committee to take in charge the preparation of the portrait: Drs. Richard H. Lewis and Geo. G. Thomas.

On motion, a committee, consisting of Drs. P. E. Hines, J. J. Summerell and C. J. O'Hagan, was appointed to suggest to the next meeting of the Society some suitable action on the part of the Society for the perpetuation of the memory of Dr. S. S. Satchwell.

Dr. Lewis alluded to the death of Dr. Charles Duffy, saying that, while he was a young member of the Society, he was among the most able physicians of the State. He had done many bold and difficult operations and had reflected great credit upon the Society and the profession.

On motion of Dr. O'Hagan, the Chair appointed Drs. J. G. Ramsay, P. L. Murphy and J. B. Dunn as a committee to draw up suitable resolutions on the death of Dr. Duffy.

The Secretary read an invitation from the Capital Club for the Society to attend a reception and dance, to be given by the Club in honor of the Society.

The invitation was accepted with thanks.

A motion was made that all papers that had been prepared for the Society, and which had not been reached on account of the great press of work, be read by title and referred to the Committee on Publication. Objection being made by some of the authors of such papers, the motion was withdrawn.

The reading of Dr. J. M. Hays' prize essay was made the special order of business for the opening hour of the afternoon session, and the Society then adjourned, to meet at 2 : 30 p. m.

THIRD DAY.—AFTERNOON SESSION.

The Society was called to order at 2 : 30 o'clock.

The President appointed upon the Committee on Legislation Drs. A. W. Knox, T. S. Burbank, Hubert Haywood, K. P. Battle and T. D. Haigh.

Dr. J. M. Hays then read his paper entitled *A Plea for the More General Use of the Microscope in Daily Practice.* Referred.

The Committee on Credentials made a partial report, which was accepted.

Dr. W. T. Pate read his report as Chairman of Section on Microscopy and Pathology. Referred.

The hour having arrived for the installation of the newly-elected President, Drs. Booth and Roberts were requested to escort him to the rostrum.

The retiring President, in giving over the gavel to his successor, expressed the hope that the latter's administration would be as pleasant and as free from friction as his had been. With thanks to the Society for the kind support he had received, he took pleasure in giving place to one full worthy of the honor.

Dr. W. H. H. Cobb, in assuming the Chair, said that he felt this to be the proudest period of his life, in that he had been exalted to the highest office in the gift of the Society, and that he would endeavor, by their kind assistance, to so conduct the affairs of the office that no reproach would be cast upon it.

Dr. S. J. Montague read his report as Chairman of Section on State Medicine. Referred to the Committee on Publication.

Dr. R. H. Lewis asked the wishes of the Society in regard to the illustrations of Dr. Hays' paper. The drawings are in colors and the text refers to them thus.

On motion, the Committee on Publication were authorized to publish the paper in proper shape, having, however, a proper care to the avoidance of extravagance.

Dr. J. H. Way read a paper on *The Rational Use of Ergot in Obstetrics*, which was referred to the Committee on Publication.

Dr. Hays offered the following resolution, which was adopted :

WHEREAS, The members of this Society have been most cordially welcomed and hospitably entertained during its present session in our Capital city, be it

Resolved, That our thanks are hereby tendered His Excellency, Governor Carr and his Council, for the use of this Chamber as our place of meeting, and for other courtesies; and to the physicians of Raleigh and her citizens generally for their untiring efforts to render our stay in their midst so pleasant and profitable.

REPORTS OF CASES.

Dr. Knox made a verbal report of a case of ununited fracture, except by fibrous union. The patient, a negro man, fell under a turn-table and sustained a compound fracture of the femur, which involved the condyles and injured the synovial pouch. Under strict antiseptic treatment the patient escaped septicæmia, but there was no union of the bony fragments which the reporter attributed to the peculiar location of the fracture. Under the influence of cocaine, chloroform, being contra-indicated on account of the heart's condition, a trocar was passed in and the edges of bone irrigated. This resulted in fibrous union, and it is the intention of the reporter to cut down and freshen the edges of the bone and use an injection of chloride of zinc between the broken fragments and upon the

surfaces of the bone. He promised to make a full report of the case at a subsequent time.

Dr. Munroe reported the case of an old man whose abdomen was enormously swollen. Seven days previously his bowels had ceased to move, and later he had passed some blood. Thinking he had a case of intussusception to deal with, he applied the proper means for its reduction, but failed to get good results. Remembering to have seen his father relieve similar conditions in cattle by introducing his knife-blade into the swollen gut, he introduced his hypodermic needle, with the satisfactory result of the passage of large quantities of gas and a considerable reduction of the swelling of the belly. The next morning he found the old man much better, and he had had three large actions. He thought the bowels had been paralyzed by the extreme distension.

Dr. Booth reported an interesting case of abscess of the sub-maxillary gland, with the discharge of a large salivary calculus.

In discussing Dr. Munroe's case Dr. Knox cited a somewhat similar case which he had seen reported. He thought that constipation caused the excessive accumulation of feces, with absorption and paralysis of the muscular coats of the bowel. The puncture relieved the distension and gave the bowel an opportunity of recovering its power.

Dr. Hays reported a case of erysipelas in a little girl. It began at the knee and spread rapidly. He treated it by local applications and internal remedies. He used iodine and resorcin, but could not obtain any ichthyol. About the fourth day the child was anæsthetized and he made an incision about ¾ of an inch above the upper line of demarcation, the incision including only the true skin and entirely encircling the limb. A second similar incision was made ¾ of an inch above the first. Then a solution of bichloride, 1-200, was applied on absorbent cotton over these incisions and a protective dressing applied. To his surprise, he found the next morning that the inflammatory process had spread to the lower incision and had extended along this incision, but had not skipped it, except in one place about the size of a finger-nail. The child made a rapid recovery. The little spot which jumped the first incision never reached the second. The erysipelatous process would jump iodine, nitrate of silver and the adhesive plaster; but he believed this treatment was a sure way of arresting it. Of course the treatment is restricted to the extremities.

Dr. Knight had found absolute alcohol very efficacious.

Dr. O'Hagan called attention to the treatment of erysipelas by pressure from the application of simple collodion. He cited three consecutive cases treated by this method with very satisfactory results. The first was a very severe attack of facial erysipelas in a robust young man. He painted the whole face except the eye-lids. The second case was also the facial type, and the third was of the lower extremity. Iron was administered internally at the same time. In reply to a question as to what part of the favorable result, if any, he attributed to the antiseptic action of the ether, he said he thought all the good result was from the pressure of the capillaries.

Dr. R. L. Gibbon was requested to read his paper to which was awarded one-half of the Pittman prize.

Dr. Gibbon responded by reading a paper entitled "*Suppurative Hepatitis, with a Report of Thirty Cases, Collected from North Carolina.*"

On motion, the thanks of the Society were returned to Dr. Gibbon, and his paper was referred to the Committee on Publication.

The President announced the following Chairmen of Sections:

Anatomy and Surgery—Dr. R. H. Stancill.

Therapeutics and Practice of Medicine—Dr. C. E. Laird.

Physiology and Materia Medica—Dr. J. P. Fearington.

Obstetrics—Dr. H. H. Dodson.

Gynæcology—Dr. W. D. Pemberton.

Jurisprudence and State Medicine—Dr. A. Cheatham.

Pathology and Microscopy—Dr. J. B. Powers.

As Leader of Debate, the Chair appointed Dr. R. L. Gibbon.

The Secretary read a telegram of greeting from the Louisiana State Medical Society.

The President announced the following appointments:

Duffy Prize—Drs. J. H. Tucker, W. C. Galloway and W. O. McDowell.

To fill vacancy on the Board of Censors, Dr. H. H. Harris.

The following is the full list of applicants for membership reported by the Committee on Credentials:

Drs. John R. Wheless, Centreville; Thomas A. Matthews, Castalia; W. R. Goley, Graham; F. H. Seawell, Archer Lodge; G. M. Bell, Wakefield; W. B. Bullock, Franklinton; R. J. Nelson, Robersonville; Starke Hassell, Roper; T. B. Williams, Ridgeway; Albert Houck, Lenoir; W. W. Gibson, Taylorsville; Henry F. Long, Statesville; J. R. Anderson, Morganton; J. P. Brown, Ashepole; M. F. Morphew, Marion; R. H. Stancill, Jr., Margarettsville; J. F. Highsmith, Fayetteville; B. W. Burt, Enno; J. W. Tayloe, Union; B. B. Williams, Keyser; J. H. Gibbon, Charlotte; J. T. Rieves, Julian; Claude M. Benton, Newton Grove; W. H. Wakefield, Salem; C. A. Julian, Thomasville; R. L. Davis, Bryson City; J. M. Flippen, Thomasville; G. A. Renn, Raleigh; E. F. Strickland, Bethania; Joshua Tayloe, Washington; J. J. Blount, Washington; Robert G. Gill, Henderson; J. M. Templeton, Cary; R. A. Moore, Moncure; Robert L. Gattis, Belle Voir; H. C. Williams, Aberdeen; W. R. Hollingsworth, Mt. Airy; W. H. Nicholson, Louisburg; J. E. Malone, Louisburg; W. J. Hill, Statesville; M. L. Stevens, Enochville; J. M. Sloan, Gastonia; C. N. Roberson, Ascend.

The following is a list of members present, as taken from the register:

Drs. R. D. Jewett, C. Daligny, A. G. Jones, Joel Hill, James McRee, E. Q. Houston, Albert Anderson, P. L. Murphy, Thomas E. Anderson, Wm. H. H. Cobb, M. R. Adams, W. D. Pemberton, J. M. Hays, E. G. Moore, R. H. Stancill, J. F. Miller, J. A. Griffin, C. G. Nichols, J. A. Wise, O. W. Caerts, F. R. Harris, Charles J. O'Hagan, John H. Tucker, R. J. Noble, R. H. Stancell, Jr., E. H. Bowling, W. J. Royster, W. H. Bobbitt, J. B. Dunn, W. Wood, W. E. Turlington, S. J. Montague, J. Howell Way, S. D. Booth, W. E. Fitch B. F. McMillan,

J. V. Hines, J. W. McNeill, J. A. Hodges, J. B. H. Knight, J. P. Fearington, J. A. Reagan, R. W. Palmer, R. J. Achron, G. M. Hackler, John G. Ray, H. W. Lewis, W. H. Whitehead, Duncan St. Clair, J. T. Reid, H. B. Weaver, J. L. McMillan, S. A. Rutherford, M. McI. Tatum, A. W. Knox, Edw. Geer, A. M. Ballard, W. J. Howell, M. H. Fletcher, J. H. Wolff, E. L. Cox, C. J. O'Hagan, P. J. Macon, D. A. Stanton, Thomas Stamps, J. W. Long, H. Johnson, W. E. Powell, John W. Tayloe, Arthur O. Jones, W. G. Freeman, W. T. Cheatham, L. P. Sewell, J. M. Lyler, J. W. White, A. T. Cotten, L. W. Hunter, J. R. Irwin, A. J. Patterson, W. A. Monroe, P. Braun, Samuel A. Henley, R. L. Payne, W. N. Hicks, J. C. Walton, W. H Harrell, J. G Ramsay, J. B. Shamburger, C. H. Lewis, Richard H. Lewis, Wm. H Cobb, Jr., S. L. Montgomery, E C Register, E. G. Goodman, K. M. Ferguson, E. D. Roberts, C. M. Poole, W. B. Bullock, J J Summerell, J. C. Grady, P. B. Loftin, Willis Alston, Francis Duffy, R. C. Ellis, E. H. Bowling, H. H. Dodson, W. Edwards, W L. Best, G. T. Sikes, J. J. Mann, Thomas Hill, W. R. Mayo, W. O. McDowell, Robert L. Gibbon, P. A. Nicholson, J. T. Nicholson, Henry T. Bahnson, J C. Jenkins, John R. Wheless, A. M. Lee, M F. Morpheson, E. C. Edwards, Will. B. Crawford, Jenness Morrill, M. F. Fox, Henry F. Long, T. A. Matthews, M. W Gibson, M. J. Jones, E. P. Laird, N. P. Boddin, B. L. Long, F. S. Royster, G. A. Foote, J. G. Riddick, F. H. Seawell, M. P. Perry, W. H Bagwell, J. D. Roberts, Joshua Tayloe, H. H. Harris, M E Gattis, N. B. Herring, B. T. Cox, Oscar McMullan, J. M. Hays, W. P. Mercer, J. G. Blount, Joshua Tayloe, W. E. Headen, J. W. Chambers, R. A. Moore, J. H Gibbon, St. Clair Spruill, J. L. McCullers, J. F. Highsmith, J. H. Harden, H. T. Chapin, J. M. Flippin, C. A. Julian, W. R. Goley, C. M Benton, R L. Gattis, G. A. Renn, H. Haywood, W. H. Wakefield, James S. Turner, L. J. Picot, E. F. Strickland, T. B. Williams, B. B. Williams, R. Winslow, R. J. Grimes, W. H. McKinnon, Albert Howell, H. C. Williams, Geo. Gillett Thomas, John C. Chase, R. B Henderson, J. F. McKoy, F. T Fuller, R. A. Patterson, John L. Moore, G. M. Bell, A. J. Battle, J. T. J. Battle, W. A. Hollingsworth, J. T. Reives, J. P. Munroe, R. W. Thomas, J. G. Broughton, M. W. Harper, Julian A. Baker, W. T. Pate, D. M. Prince, J. M. Manning, J B. Powers, R. L. Davis, John B Gaither, K. P. Battle, J. A. Faison, D. C. Harris, P. R. Hatch, F P Wynn, W H. Nicholson, J. E. Malone, J. M. Hadley, A. G. Carr, L. L Sapp, T D. Faucette, H. B. Marriott, M. W. Gibson, H. H. Whittaker, W. R. Hollingsworth, R. W. Tate, D. P. Whitley, J. M. Sloan, J. M O'Kelley, T. F. Meisenheimer, C. N. Roberson, J. W. McGee, Sr.

On motion, the Society adjourned, to meet in Greensboro on the third Tuesday in May, 1894.

J. W. McNEILL, M.D.,
President.

ROBERT D. JEWETT, M.D.,
Secretary.

REPORT OF THE BOARD OF MEDICAL EXAMINERS OF THE STATE OF NORTH CAROLINA.

The Board of Medical Examiners of the State of North Carolina met in rooms of the Yarborough House, at Raleigh, on Monday, May, 8th, 1892, at 10 a. m. The minutes of the last meeting, held in Wilmington, were read and approved. Drs. Thomas and Whitehead, Committee of Finance, audited and found correct the accounts of the Treasurer.

According to instructions at former meeting, a letter which had been written to Attorney General Osborne, was read by Secretary Picôt. The Attorney General declined, for satisfactory reasons, to give a written official opinion upon the point involved.

Dr. Thomas moved that the rule adopted by the Fifth Board of Medical Examiners regarding the issuing of temporary licenses to applicants making an average grade of above 66⅔* per cent. and less than 80, be, and is hereby, repealed. Dr. Young seconded the motion and it was carried by a unanimous vote.

The examinations were held in the Senate Chamber. Dr. Julian M. Baker conducted the Obstetrical examinations with the aid of a "Manikin," and applicants were required to define the various presentations and demonstrate deliveries with forceps. The examinations in Gynæcology, as well as in the remaining branches, were written, and a standard of 80 per cent. maintained, as heretofore.

There were eighty-one applicants and two of these withdrew early in the session. Of the remaining seventy-nine, forty-seven were granted license, as follows: C. H. Phillips, Fullers; J. F. Rhem, New Berne; Jos A. Morris, Wilton; LeRoy Long, Lowesville; W. G. Beckwith, New Hill; W. B. Moore, Francisco, Stokes county; S. P. Wright (col.), Elizabethtown; J. F. Abell, Canton; Frank H. Russell, Wilmington (Appleton prize medal); C. A. Anderson, Stainback; R. L. Holloway, Fishdam; E. F. Corbell, Sunbury; E. L. Crumpler, Hansoms, Va.; L. L. Sapp, Kernersville; James Dixon, Fountain Hill; G. F. Arie, Ritchies Mill, N. C.; T. A. Norment, Lumberton; Thos. M. Riddick, Elizabeth City: W. W. McKenzie, Salisbury; Chas. O'Hagan Laughinghouse, Greenville; F. F. Stevenson, Statesville; G. A. Smith, Siler City; W. F. Faison, Fayetteville; G. N. Ivie, Stoneville; T. A. Hatchcock, Norwood; C. T. Winley, Yeatesville; W. D. Bowen, Plymouth; C. B. Walton, Raleigh; B. C. Waddell, Scottville; Chas. W. Moseley, Lewisville; W. J. Moore, Sandy Ridge; Chas. T. Wyche, Oxford; M. E. Street, Fairhaven; J. L. Kernodle, Elon College; A. M. Whisnant, Shelby; Charles J. Harper, Wilmington; R. J. Williams, Barnaman's Bridge; F. W. Whitehead, Scotland Neck; W. B. Norment, Lumberton; K. G. Averitt, Stedman; C. B. McNairy, Lamont; H. T. Pope, Lumberton; N. G. Ward, Belvidere; C. F. Griffin, Woodland; T. S. Faucette, Burlington; James W. Duguid, W. L. Hill, Walnut Cove.

The following named persons held temporary licenses during the year. These temporary licenses expired on the first day of Board meeting:

*The rule referred to formerly allowed candidates making an average of 66⅔ per cent. to withdraw and afterwards apply to two members for examination for temporary license.

J. F. Powell, W. D. Hooper, Thomas L. Douglass, W. P. Horton, L. L. Sapp, W. E. Warren, L. G. Frazier, T. S. Faucette, W. G. Shaw, L. C. Smith, J. H. Holcomb, LeRoy Long, John W. Prather, —— Brown, —— Peterman, —— Oakey, —— Reed, —— Hemphill, —— Hunter, —— Byron, R. W. T. Pegram, J. P. Crawford, C. H. Phillips, Chas. T. Wyche, Chas. W. Moseley, R. J. Palmer, R. L. Asheworth, F. H. Russell, Jos. H. Hanby, W. W. Barrett, Geo. T. Arie, W. —. Sheppard, W. V. Swett, Jeff. W. Bulluck, C. H. Brantley.

Drs. Robt. S. Young and L. J. Picôt were delegated to represent the North Carolina Board at the Third Annual Conference of Inter-State Medical Examining Boards to be held in Chicago June 6th.

Dr. Frank H. Russell, of Wilmington, won the Appleton prize.

The Board adjourned at 3 a. m. Saturday, May 13th, 1893.

W. H. WHITEHEAD, M.D., President.

L. J. PICÖT, M.D., Secretary.

[APPENDIX.]

PRESIDENT'S ADDRESS.

By J. W. McNeill, M.D., Fayetteville, N. C.

Fellow Members of the Medical Society of the State of North Carolina:—I am deeply sensible of the honor conferred by an election to the presidency of this Society, and I now most heartily and sincerely thank you for choosing me for the position, without suggestion on the part of a committee.

On February 7th, 1848, a circular letter, signed by J. B. Jones, W. H. McKee, N. J. Pittman, J. A. McRae and R. B. Haywood was issued, calling a State Medical Convention. That Convention was held in this city of Raleigh, April the 16th, 1849, Dr. Frederick J. Hill presiding. The growth of the Society since that time has been gradual but sure, having been carefully planted by sturdy hands in a fertile soil; like a good tree, its branches have multiplied and extended far and wide. It is interesting to know that we can name at this time 490 active members, and with pride we see among the faces, still, so many of the older members of the Society, whose arduous labors have brought us both strength and renown, and notably among these we are pleased to see, and to welcome in our midst to-day, Dr. J. B. Dunn, of this city, whose name, alone, appears as having been placed on the roll in 1849. Our pride is not without hope for the future. Among the younger members are found many of the most active workers in the profession. The founders "builded better than they knew." From small beginnings the Society has come to be an affair of prime importance. We are to-day exerting a greater influence on public thought and action, and being more and more appealed to in the legislative and economic work of the State, and the public health and safety of the health of our citizens is being more and more committed to our hands. The Society having come, thanks to the labors of our predecessors, to enlarged facilities and greater influence, we naturally ask what work it shall undertake now, that it may fitly represent the profession of the State and do justice to its citizens.

It is true that the chief work of this Society is naturally and properly the scientific cultivation of the healing art. But it is idle for us to discuss and to promulgate doctrines of great importance to the public weal, if we have no power or means of putting our views into action. To this end it seems to me one of the most important things to which the Society should devote itself now and in the future, is to secure for the medical profession a more authoritative position in all bodies of influence, political or social, in sanitary and hygienic matters.

COMMITTEE ON LEGISLATION.

And to more surely attain to this position, I would suggest that there be appointed at this meeting of the Society a standing committee on legislation, whose continual duty it shall be to arrange and to advocate before the Legislature, the Governor and others in authority, the necessary laws regulating all

sanitary and hygienic demands. Also to guard against invasion and injury to laws already established for the protection and well-being of the people. The ignorant or unscrupulous demagogue and enemy of science and hygiene, can be found in every legislative body; and, if allowed full sway, will eventually sap the very foundations of the medical laws, for the good of the people, that have been so firmly laid by the medical profession of the State.

BOARD OF HEALTH.

After so many years of labor, in the face of many difficulties, our Society, through committees, working in co-operation with its Board of Health, has at last caused the establishment of laws, which, if properly carried into effect, will more perfectly than heretofore protect the citizens of the State from the threatening invasions of epidemics, or from diseases that are likely to arise within our own borders. The health conference called by the Board of Health, and held in this city on January 25th, adopted a bill to be recommended to the legislators. The bill, as adopted at that conference, was presented, and passed as a whole by the General Assembly, with the exception of the transference of the control of the Board from the State Medical Society to the Governor. By giving him the appointment of five members of the Board instead of three, as heretofore. and reducing the number to be elected by this Society from six to four. They also reduced the term of office of the members elected by this Society from six to two years, to correspond with the terms of the appointees of the Governor. I look upon these changes in the recommendations as of vital importance. It is to be feared that, under political pressure, the composition and methods of the Board will soon be such that the child will hardly be recognized by its own mother—the State Medical Society. Barring these changes, the law, as prepared by the efficient and progressive Secretary, Dr. R. H. Lewis, and passed by the Legislature, fitly represents this Society, and secures to the people of North Carolina protection from enemies without and enemies within her borders.

The Legislature is to be commended for enacting the law providing a contingent fund of $5,000 to be expended when rendered necessary by a visitation of cholera or any other pestilential disease.

The law, as a whole, has prepared the way for the Board of Health to have more uniformity of action with the county superintendents of health, and altogether to be placed on a better working basis—not being handicapped and hampered, as heretofore, by lack of authority.

The Society, as a body, and every member of the medical profession in the State, should uphold the Board in their work of protecting our land from dreaded pestilence.

BOARD OF EXAMINERS.

The Board of Examiners is the child and pride of this Society. It is standing as a breakwater against the rush of quackery, ignorance and false pretensions, which are constantly attempting to find their way into public confidence. These examiners are all elected by the Society, and the determining who should prac-

tice medicine within our borders, and how he should be qualified, is the only exclusive right that the law-making powers allow us to enjoy. With this barrier standing between and protecting the people of this State against these evils, it would seem that the legislators would appreciate the work of our Society and recognize the desire on the part of the profession to have laws enacted for the better protection of the people. But such appears not to be the case, as evidenced by the act of the last Legislature in transferring the control of the Board of Health from the State Medical Society to the Governor.

SECTION OF PUBLIC HEALTH.

If the Society sees fit to appoint a committee on legislation, it should be instructed to use every effort to influence Congress in the direction of perfecting our national quarantine laws. Let us be the pioneers and leaders in this matter, as we have been in the establishment and improvement of the system of the Board of Examiners. Prompt and energetic action should be taken, so that, as soon as possible, the quarantine regulations may come under the direction of the General Government, with a Secretary of Public Health at the head of this branch of the Government. It is true that the conference in March, between the officers of the Marine Hospital Service and the quarantine officers of the Atlantic and Gulf coasts, adopted a uniform code of regulations, which, it is believed, will be as effective, as regulations can be made at present, in preventing the introduction of diseases dangerous to the public health. But this is only a temporary arrangement, with no general head, qualified and empowered by law to direct the affairs of the regulations adopted, and to deal efficiently with the great sanitary interests of our diversified climate and our world-wide commerce. With a head of this kind it would inspire confidence in the whole system of quarantine, and we would be encouraged to more active steps in this matter, feeling that there was one at the head qualified and in full sympathy with every movement that we might make towards reform. Therefore let us aim to secure the creation of a central public health organization, having at its head a medical man as a cabinet officer, who shall direct the affairs of this branch of the General Government, and styled a Secretary of Public Health.

INSANE ASYLUM.

The State of North Carolina has one dark blot upon its record, in neglecting to provide suitable and sufficient accommodations for the insane within its bounds. It behooves this Society to take a firm stand in this matter, and through the committee, together with the present superintendents of the asylums, present the necessity of providing more room for the insane, and continue to press it upon the law-makers until the proper action is taken. After the reading of a paper by Dr. J. Allison Hodges, at Oxford, on "The Condition of the Insane of our State Outside of the Asylums," which paper developed some horrible and disgraceful facts, a committee, with Dr. Hodges as chairman, was appointed to lay the matter before the Legislature. The committee did its duty in urging upon the next session of the Legislature the necessity of further accommodation

for the insane. But as is the case with many movements towards reform for the relief of suffering humanity, the Legislature failed to take any action; since that time we have failed to press the matter, and consequently nothing has been accomplished. Contention for a good cause like this should never cease on the part of this society, it matters not what should stand in the way of its accomplishment. We see in every community the elevating and enlightening effect of the asylum treatment, on those who have been discharged. While on the other hand we see so many in need of this treatment, suffering and growing more and more in need of the treatment that can only be given in these institutions, and yet no provision has been made for them by our wise law-makers.

We cannot believe that this state of affairs will continue to exist long, if our committee will persistently urge the matter.

CORONERS.

The committee on legislation should be instructed to exert its influence towards abolishing the present coroner system, and to urge the Legislature to pass a law which will, in the State of North Carolina, as in the State of Massachusetts, make the office of coroner one to be filled, only by a competent physician. The office of coroner is one that properly belongs to a medical man. But it is now only a chance in political nominations that coroners are ever physicians.

COUNTY SOCIETIES.

Sometimes in our great desire to be progressive; we are liable to depart too far from the old land marks; and it is with regret that I see nothing in recognition of the county societies, in the proposed substitute for the old constitution and by-laws. It is necessary that the people throughout the State, should be informed as to what the medical society has done, and proposes to do for them; and the matter of proper laws should be agitated among them, that they may appreciate the necessity of the work; and be in sympathy with those who are laboring for their best interest, and thereby be impelled to urge their legislators to enact laws for their protection. This can most readily be accomplished through the county societies. It is also a well known fact that in the counties having a medical society, the county boards of health are much more active and efficient than in those where there is none. Also, the general tone and dignity of the profession is at a higher grade, and the general walk and bearing of the physician is more in accord with the spirit of the code. Therefore, it would seem wise for the State society to recognize delegates as of old, and in every way to encourage and nurture the county societies.

These suggestions, gentlemen, I have made with a view of encouraging and aiding our society, to rise to that position of authority over the public, and the authorities of the State that it deserves; also, that it may be elevated to our proper position, as arbiter of their hygienic and medical interests.

The question with us should be one of ways and means. And this society, with the educated experience of its members, should be able to discover means by

which laws for the better protection of the people are enacted; and to see to it that their being carried into effect, is not neglected.

THE NORTH CAROLINA MEDICAL JOURNAL deserves attention from us. It is recognized as the official organ of our society. It has been, under the old management, a wonderful factor in the elevation and advancement of the profession in the State; and has done much in the interests of laws that have placed us on a higher plane of usefulness. Under the new management, I feel safe in saying, that it will take no step backward, but will push on to greater and better things in the future; and through this medium the society will be enabled to promulgate its ideas of needed reforms in the medical laws of the State. Therefore we should render it every possible support and encouragement.

The international Medical Congress will be opened in Rome on September the 24th, and continue in session until October the 1st of this year. This society should have representation at that meeting. The committee of arrangements announce, that they have already received notice from various countries, that they will be represented; and it is to be hoped that our country will occupy its usual position there.

I cannot close my remarks without a word of tribnte to those members of our society whom death has taken from us during the past year. There are two to whom this society will always owe a special debt of gratitude and respect, Doctors T. F. Wood of Wilmington, and S. S. Satchwell, of Burgaw. These men did all that man can do. Their loyalty and devotion, their watchful care and self sacrifice, their wise counsels and liberal support will be remembered, and prove an inspiration to every member of this society who values an honorable name.

Both of them were zealous in the work of this society, but particularly in originating the Board of Health. Dr. Wood's faithful zeal for the cause in its darker days continued unabated, until the board was placed on a working basis. Though one feels that his death leaves a gap that no one can fill, his faithfulness to every trust, his versatility of accomplishments, his gentleness of spirit and charity towards others, and the many traits that contribute to his noble nature, will inspire us to emulate his manly character.

Our thanks are due to the Governor for the privilege of meeting in this hall. President Cleveland has said that "the nobility and sacred character of the medical mission, will never lose its interest while humanity is touched with human woe, while self-sacrifice receives the homage of Christian hearts, while the suffering and sorrows of our fellow-men start the tears of pity. nor while their alleviation brings comfort and satisfaction to the soul of sympathy."

This broad and clear conception of our mission must have been the sentiment of our State Executive in tendering this hall.

A PLEA FOR THE MORE GENERAL USE OF THE MICROSCOPE IN EVERY DAY PRACTICE.

By J. M. Hays, M.D., Oxford, N. C. Being one of the Prize Essays to which was awarded the Pittman Prize by the Medical Society of the State of North Carolina, May, 1893.

Omnis Cellula e Cellula.

When Robert Hooke, in England, and Father Di Torre, in Italy, were more than two centuries ago prying into the secrets of Nature with the aid of magnifying glasses made by fusing the ends of spun glass into globules, they little realized that the microscope of the future was destined to revolutionize the Natural Science and to become a potent means of lengthening human life and adding much to its comfort.

The history of the evolution of the modern compound achromatic microscope from this simple beginning is full of interest and instruction. We watch the indefatigable Leeuwenhoek as he overcomes the countless obstacles in his way, and finally succeeds in grinding and polishing lenses of uniform figure and short focus. We follow Sir David Brewster and Mr. Pritchard in their ineffectual attempts to overcome chromatic aberration by the use of enses made from diamonds and sapphires, and rejoice with Amici and Ross when they finally accomplish this desideratum by making certain combinations of flint—with crown-glass lenses. In very late years such wonderful improvements have been made by Zeiss, Hartnach, Nachet and others in the manufacture of high grade microscopes and accessories, that we are forced to wonder whether or not the skill of the artificer has any limit, and if the time will not one day come when the homogeneous immersion objective with a magnifying power of many thousand diameters will be laid on the shelf to rust, and its place taken by some "new and improved method" which will reveal to us, forsooth, the parasites which infest our enemy, the staphylococcus pyogenes, and give it abscesses, or tell the tale of woe on the diminutive gonococcus of Neisser and bring it to open shame; for we know that

> "Even to the very fleas have smaller fleas to bite 'em,
> And these fleas have still lesser fleas, and so *ad infinitum*."

But, however much we may admire the ingenuity of skilled mechanicians, as they have patiently labored toward the perfection of philosophical instruments, we are still more impressed with the readiness shown by Medical Science in adapting each invention or improvement to its own use—thus making Art her vassal, and the Natural Sciences, without exception, yield her ample tribute.

And so it is that the individual physician who would lay reasonable claim to being in touch with the Science of Medicine in his own time, must not only be acquainted with what our fathers knew and did, but must be prepared to assimilate to his own use each newly established fact which relates to his profession and make it a part of his general storehouse of information. It is only thus that he can become equipped to render Nature that intelligent assistance which

is so reasonably expected of those who profess our Science and practice our Art. The high-water mark of Medical Science is Pathology. The Surgeon stands with his scalpel in hand impatiently awaiting the signal from the pathological laboratory for him to proceed. We have seen a mighty Empire held in breathless suspense while a tiny particle of tissue from a Prince's vocal cord was undergoing a microscopical examination by the foremost pathologist of the world. The Physician, with pencil and blank before him, dares not prescribe until the microscope makes or confirms his diagnosis. The Dermatologist will tell you directly whether the eruption is parasitic or a neurosis. And even the threatened disruption of family ties has been prevented by the demonstrated absence of Neisser's coccus, and a judgment for having set up a urethritis of vegetable origin been docketed against asparagus. The Hygienist goes ever and anon to the bacteriological laboratory to get his bearings, and when he thus becomes the means of shielding a Continent against the invasion of a deadly pestilence, he wins, and justly merits, not only the plaudits of a Nation, but the gratitude of all mankind.

It would be a work of supererogation for me to go into any argument relative to the germ-theory of disease, so-called, in a paper to be presented to a gathering of physicians such as compose the North Carolina Medical Society.

No medical scholar at this day dares seriously deny that many of the diseases which we are regularly called upon to treat are due to vegetable micro-organisms differing widely in morphological and biological characteristics.

Those of us who were not taught it from the beginning are forced now to admit that the tuberele bacillus is the aetiological factor in tuberculosis, whether manifesting itself are phthisis pulmonalis, scrofulous adenitis, strumous arthritis or lupus. There is scarcely any further room for doubt that the micrococcus pneumoniae crouposae of Sternburg and Pasteur is the direct cause of the disease from which it derives its name. Eberth has convinced the medicvl world that typhoid fever owes its origin to the presence in the alimentary canal of the bacillus typhosus. We have every reason to believe that malarial fever, in its various forms, is caused by the oscillaria or plasmodium first described by Laveran and subsequently "demonstrated by every observer who has had the necessary training and material at his command." (Osler.) We know that the streptococus erysipelatos of Fehleisen and the streptococcus pyogenes of Rosenbach are apparently identical, and that it is this streptococcus also which appears to be the cause of puerperal metritis or septicaemia. We no longer question the conclusions reached by Loftler and Welch that genuine diphtheria is due to a specific bacillus whose pathogenic power has been demonstrated over and over again upon susceptible animals. We know that Pfeiffer has isolated the bacillus of influenza and demonstrated its constant aetiological relation to the disease which has given us all so much trouble of late. We know that tetanus is due to a specific micro-organism and that Kitasato, with many followers, has produced the disease in the lower animals with all of its characteristic symptoms by injections of the pure culture of the bacillus tetani. Asiatic cholera will not be denied its place in the list of germ diseases by any of us since we know that the spirillum cholerae

Fig. 4.

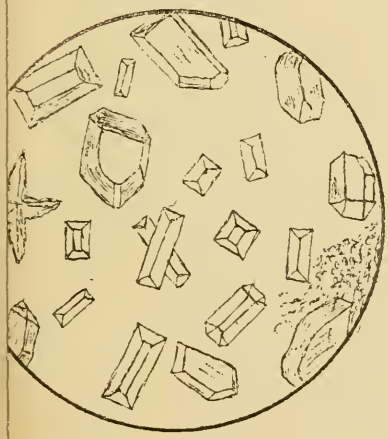
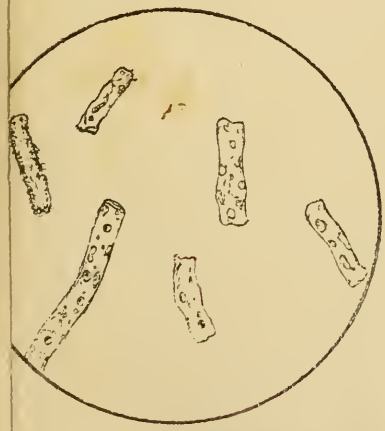


Fig. 6.



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asiaticae or "comma bacillus is always present in the contents of the intestine of cholera patients during the height of the disease, and that it is not found in the contents of the intestine of healthy persons or of those suffering from other diseases than cholera." (Sternburg.) My paper is not, I say, in any sense an apology for the germ theory of disease; but I wish to emphasize the fact that it has been, through the instrumentality of the microscope that these data, now accepted by us all, have been established, and that it is only by the aid of the microscope that we can be on familiar terms with the enemies which we are constantly called upon to fight.

Certainly, in the matter of Pathological Histology we, as general practitioners, have an ample field in which to work, and are sure to reap a harvest which will well repay us for all our labor. A reasonable familiarity with the histological anatomy of the various tissues of the body is now very properly required by all medical examining boards; but such knowledge of this subject as may be gained from the authors alone, and witnout the aid of the microscope is of no more value in actual practice than the gross anatomy of the books studied apart from the scalpel and dissecting room. Every medical school whose diplomas are of value is supposed to be equipped with a Histological and Pathological laboratory where students are required to take a course—all too brief, as a rule—in the use of the microscope proper, and in the examination of normal and pathological tissues. Bacteriology will later on be added to the regular curriculum and instead of learning a lot of dry and totally useless facts about the sexual system of the solanasceae or the atomic weight of metals which are never seen except as museum novelties, the student will be given instruction which will render him practical aid in unravelling the tangels of his perplexing cases in after years.

Every member of this body must certainly recognize the value to himself and to his patients of a painstaking urinalysis in diseases involving the urinary tract, as well as those indicating a derangement of the metabolic functions of other organs of the body. And yet we must be candid enough to admit that such examinations are but half made until the microscope has been called into service. Many of us are examiners for Insurance Companies. and these companies, with few exceptions, require microscopical examinations of the urine, to be made in certain circumstances, and we all are presumed to be able to make them of practical use when made at all. The companies emphasize the value of these examinations by an additional fee which, I am prepared to state, is always freely paid and is but a slight expression of the appreciation of this service at the home office. Among the companies which expect their medical examiners to be prepared at any moment to make a microscopical urinalysis I may mention the Connecticut Mutual, Equitable, Home Life of Brooklyn, Maryland Life, Massachusetts Mutual Life, Mutual Benefit of New Jersey, New York Life, Phœnix Mutnal, Provident Savings, and Union Mutual. Several other companies which do not give specific instructions on this point imply, in a general way, that the ability to do work of this character should be possessed by their local medical examiner. And it must be manifest to everyone, who has given the subject of Insurance any stndy, that it is a system which is becoming more popular every day, and whereas

it was formerly regarded as a kind of lottery and a thing unholy and full of snares, to-day it is considered a necessity; and the man who fails to provide thus for those of his own household is regarded as under the censure of the Biblical anathema. The demand for competent medical examiners must necessarily increase with the growing popularity of insurance, and as year by year the value of the microscope in diagnosis is becoming better understood, so, pari passu, medical examiners are being required to bring it into more general use, in the performance of their duties. And ought we not certainly to be as careful of the health and lives of patients entrusted to our care as of the interests of Insurance Companies whole confidential advisors we are?

By the use of the microscope and by its use alone are we enabled to detect the presence in the urine of casts from the tubuli uriniferi the significance of which is so manifest. Epithelium from the various parts of the urinary tract can by this means alone be identified and its origin ascertained. Blood in the urine which is always of evil omen can with certainty be detected in quantity ever so small—one drop to the ounce of urine being sufficient to show the corpuscles in in abundance as in Fig. 1. In Fig. 2 are shown the various forms of uric acid which I have observed and jotted down at various times. Fig. 2 is a drawing of sodium urate in hedgehog crystals, while its more common amorphous form is shown in Fig. 4. Calcium oxalate, both in octahedra and dumb-bell crystals is shown in Fig. 5. Fig. 6 represents crystals of triple phosphate in fresh urine from a case of cystitis, and Fig. 7 from the same, showing the bacterium ureae. The latter was drawn after the specimen had been exposed to the air for several days. Fig. 8 shows hyaline casts, Fig. 9 blood casts from a case of acute parenchymatous nephritis, and Fig. 10 casts giving evidence of fatty degeneration in a case of advanced Bright's disease. Pus corpuscles and spermatozoa I have also not infrequently recognized in urine by the use of the microscope. Sarcina ventriculi are sometimes found, but I have never observed them. Fig. 11 is a drawing made from a section of squamous-celled carcinoma, commonly called epithelioma, which I removed from the lower lip of an aged white man. The epithelial cells which are the essential feature of this neoplasm, it will be noted have taken on the yellow color of the picric acid while the connective tissue and nuclei of the cells are stained red by the carmine. In the drawing is shown one of the hairs of the beard, which, being epithelial tissue is stained yellow. Fig. 12 represents a section of an adenoma which I removed with the ecraseur from the cervix uteri of a young married woman. In many particulars this neoplasm appeared to be malignant, but the microscope settled its nature beyond any doubt by showing the little cavities, lined throughout columnar epithelium, which are characteristic of certain class of a adenomatous growths. Fig. 13 shows a section of another growth of same nature, in which case I removed the entire cervix uteri. Incidentally, I may state that the woman has since given birth to a full-term baby, and that the labor was very brief and attended with far less pain than usual. Fig. 14 is a drawing from a section through a neoplasm as large as a hickory nut, involving the skin and subcutaneous areolar tissue, which I removed from the femoral region of a lady well advanced in years. She had been greatly an-

Fig. 13.

Adenoma Cervix Uteri. x 140.

Fig. 12.

Cervix Uteri x 100

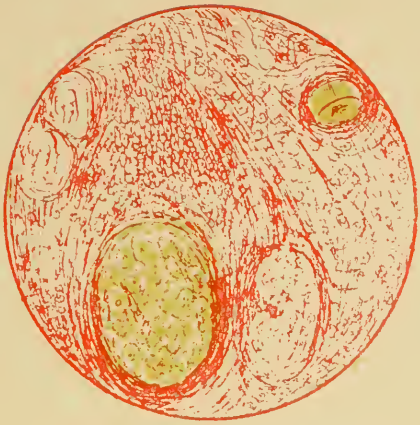
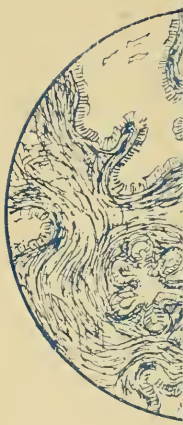


Fig. 11.

Squamous-Celled Carcinoma—(Epithelioma) Lip × 140



Adenoma.

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noyed by its growth for several months. No enlarged glands. Recovery was complete and there has been no return of the growth after three years. It was found to be large-celled avelolar sarcoma which doubtless had its origin in the subcutaneous tissue and afterwards involved the skin proper. Each of the nests of cells in the drawing is marked by a blue letter S. Fig. 15 represents a section of a spheroidal-celled carcinoma of the clitoris which had also destroyed the upper half of the left labium minus.

The inguinal glands were beginning to assume the malignant process and the operation was sought by the patient only as a means of receiving temporary relief from the most agonizing suffering. It accomplished this purpose, but the cancer returned in situ after about three months, spread rapidly, and soon proved fatal. Figs. 16 and 17 are from a case of considerable interest. J. W., aet. 50, white, farmer, fitst consulted me in November, 1891. He was suffering from an ugly ulcerating growth as large as a silver dollar, situated near his left nlpple and exposing the fifth costo-chondral articulation over an area as large as a nickel. Immediately around this large ulcer were several smaller ones and numerous nodules of varying sizes. No axillary adenitis. Patient had been in the hands of quacks who were treating him with caustics while the malignant process was gaining ground every day. I at once advised a radical operation, to which he at once consented. On November 27th I removed the entire growth by an eliptical incision, including all the tissues down to the ribs. That portion of the fifth rib which had been laid bare by the malignant process was found to present a healthy appearance and was not disturbed. Union by first intention and without drainage tubes, which has been my good fortune in seven breast amputations, was obtained in this case except over an area as large as a silver half dime, just where the rib had formerly been exposed. Iodoform, aristol and other stimulating and aseptic powders were used, but I could not persuade granulations from the surrounding tissue to cover this little surface of exposed bone. The adjacent skin had already been subjected to considerable tension, and I did not at that time deem a plastfc operation advisable. In a few weeks the rib began to ulcerate and I at once advised resection. This was not agreed to by the patient until the ulcerative process had entirely destroyed the continuity of the rib at the costo-chondral articulation. On January 27th, just two months subsequent to my first operation, I resected and removed about an inch each of bone and cartilage. The pleura, intercostal artery and nerve were not injured. The patient made a rapid and complete recovery after the operation, and has been hard at work on his farm for more than a year. I saw him to-day (April 27th, '93) and there is not the slightest indication of any return of the trouble. It might be doubted that this was a cancerous growth, but Fig. 16 is a drawing from a carefully prepared section through the subcutaneous tissue involved by the large ulcer, and is a very typical illustration of a spheroidal-celled carcinoma. Fig. 17 represents a section made through the diseased cartilage from same case, showing an abnormal conglomeration of cells in single cell cavities, which present the appearance of mulberries.

The diagnostic significance of tubercle bacilli in the sputum is no longer sub-

judice, and clinicians all over the world are daily using the microscope to clear up any doubt as to diagnosis, which in many cases must still exist after the most painstaking examination of the lungs by the usual physical methods. Osler says in his new work, and puts the statement in italics, that "the presence of these bacilli in the sputum is an infallible indication of the existence of tuberculosis." And Sternburg uses the following language in his magnificent work on Bacteriology, recently published: "The examination of sputum for the presence of the tubercle bacillus is recognized as a most important procedure for the early diagnosis of pulmonary tuberculosis. It is attended with no special difficulties and every physician should be acquainted with the technique." I have myself been using this method of diagnosis as a routine practice for more than two years in all cases where there has been any doubt about the nature of the disease, with a suspicion of tuberculosis. I can say that in no instance yet has it proven untrustworthy. I admit that in rare cases a patient may be phthisical and yet the sputum contain no bacilli; but this is very unusual. I have sometimes found but three or four rods under a whole cover glass, but they were sufficient to tell the tale and enable me to pursue a rational treatment, which, in a number of instances, has apparently been crowned with the most eminent success. I might go on at length to give clinical histories in point, but it would be a waste of your valuable time. Suffice it to say that my experience has been entirely in accord with that of other observers, and that in every case of phthisis pulmonalis which has come under my care directly or in the capacity of consulting pathologist, I have been able to demonstrate the presence of tubercle bacilli by methods presently to be described; and furthermore, that in every case where the microscopical test has failed to reveal the presence of the bacilli, the patients have not in a single instance subsequently developed phthisis. I have also in two instances been able to assure brother physicians who have consulted me in regard to this point that their patients were free from intestinal tuberculosis; and in both cases the information gained by the use of the microscope proved to be more reliable than the clinical signs.

In making examinations of sputum I prefer a specimen expectorated from the lungs soon after the patient awakes in the morning. This should be received in a clean bottle or other utensil. I usually make the examinations the same day the sputum is raised, but in a number of experiments, made with a view to testing this matter, I have found that the bacilli are perfectly easy of demonstration after the sputum decomposes and liquifies, and also after its complete dessication. The following is the method which I have found most satisfactory, though I do not confine myself to its use alone:

First, with a clean needle pick out a small particle of the thickest sputum about the size of an ordinary bird shot, I would say, and place it in the centre of a round cover glass which has been previously cleansed of all particles of dust, etc., and on this place another similar cover glass so that the sputum will spread out in a thin layer between them. Gently slide these apart and allow the sputum ro evaporate near the fire, in the sunshine, or at some distance above the alcohol flame. After evaporation, pass rapidly through the alcohol or Bunsen flame three times

Fig. 18.
Bacillus Tuberculosis. x 650.

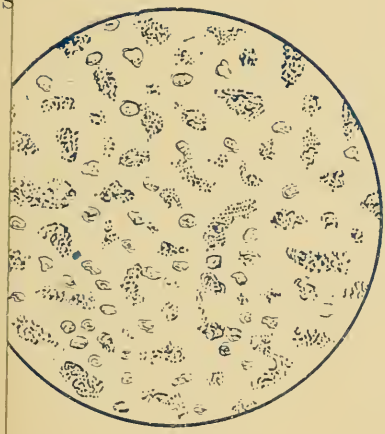

Fig 20.
Staphylococcus Pyogenes Aureus,
Abcess of Neck x 690.
A.—Pus Corpuscles.

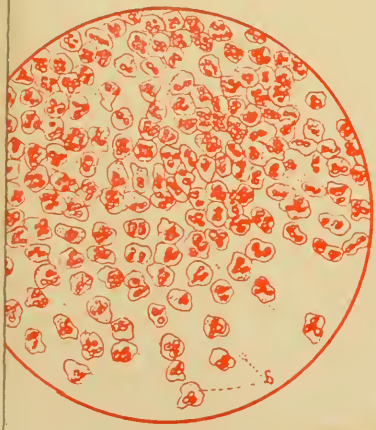

Fig. 21.

Gonococcus. x 650.
A.—Gonococci.

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to coagulate the albumen, being careful not to burn the specimen. A very slight browning of the sputum I have found makes no difference. Now make, in a test-tube, a saturated solution of aniline oil in water. About one drop of oil to the dram of water is the proper propottion, and I usually make about two drams of this fluid for each examination. Of this, after it has been filtered, take 100 parts, of fuchsin 11 parts, and of absolute alcohol 10 parts. Mix thoroughly and pour into a watch glass. Immerse one of the cover glass preparations in this, sputum side up, and float another on top, sputum side down. If it is desirable to make an examination without delay, let the watch glass containing the specimens be held over the alcohol or Bunsen flame until steam begins to rise Repeat this several times at short intervals. The specimens are ready to wash after a few minutes, but I usually allow them to remain in the fluid a half an hour. If there is no haste necessary in making the examinations the specimens may soak for twenty-four hours, but in this case boiling is unnecessary. When through the staining process, remove the specimen with slender curved forceps from the fluid and dip it into a solution of nitric acid 1 part to water 3 parts, allowing it to remain until the violet color is changed to a greenish yellow. Then at once remove to a solution containing 40 parts of water to 60 of alcohol. Wash for a few seconds in this and then remove to absolute alcohol. When all color ceases to come away evaporate and mount in Canada balsam if for preservation, or in oil of cedar or cloves if for immediate examination only. If the tubercle bacilli are present they may now be seen, as in Fig. 18, as reddish violet rods, with rounded ends, and usually slightly bent, resembling a parenthesis mark. Frequently, the individual bacilli have from two to six unstained portions, making them resemble chains of cocci. Some observers suppose that these clear spaces are spores, but this is not yet proven. This should be borne in mind, however: The method just described decolorizes all microorganisms except the bacilli of tuberculosis and leprosy. Fig. 19 is a drawing of sputum prepared by the Gibbs' double-stain method, which I shall not now describe. It will be observed, however, that other micrococci are present which are pyogenic organisms and are stained blue, while the tubercle bacilli have the reddish hue of rosaniline. I regret that the time time left me at this stage of my observations is so limited that I cannot go more fully into the character of various microorganisms which I have recently found in several specimens of sputa, and upon the exact nature of which I have been unable to obtain satisfactory light from the books devoted to this subject. I hope in a subsequent article to be able to report something of value along this line. Fig. 20 is a drawing from a specimen of pus from an abscess of the submaxillary region which I treated in a lad whose family history was by no means free from tuberculosis. The abscess developed slowly, painlessly, and for a week was quite hard. I painted triodine on it, knowing when I did so that not a drop of it has ever yet been absorbed into the system through the unbroken epidermis. I also gave cod liver oil and other internal remedies which would have been of some value had the swelling been scrofulous, as I had reason to suppose it was. At length softening took place and I evacuated the pus, syringed the cavity thoroughly with hydrogen peroxide, dressed the incision antiseptically, and in a

few days my patient was entirely well. Let me remark just here that poultices should never be used after the opening of an abscess. They are simply hot beds for germs. However, in ten minutes after I had treated this patient I found that my apprehensions in regard to the tuberculous origin of his abscess were without foundation, since no tubercle bacilli were present, but on the contrary an enormous quantity of the most usual pus forming coccus—the staphylococcus pyogenes aureus. The stain used was analine blue.

Fig. 21 shows the gonococcus of Neisser which is now universally recognized as being the cause of gonorrhoea. The value of this diagnostic test has been proven to me in a number of cases. The specimen from which this drawing was made, I obtained from a case of gonorrhea one day old. After setting aside a few drops of the thick, yellow pus for examination I cleansed the anterior urethra with peroxide of hydrogen, andthen injected a small amount of a ten grain to the ounce solution of silver nitrate, which I allowed to remain for about ten minutes. After this I at once used the retrojection treatment of Professor Otis, allowing a gallon of warm water growing constantly hot and hotter over an oil stove, to flow into the urethra through a No. 11 French catheter, and out over the diseased mucous membrane. The clap was cured at this one sitting and has never in the slightest degree returned. I have cured several other cases in both sexes by this method, and can commend it most heartily to the profession. But for the unmistakable presence of the gonococci in some of these cases one might be led to doubt the correctness of the diagnosis. The retrojection treatment with hot water I have found a most valuable means also of curing chronic gonorrhoea and gleet after the stricture has been thoroughly removed.

Did time permit, I could give many more instances which have occurred in my own practice illustrating the value of the microscope in diagnosis; but I have already taxed your patience too severely.

In conclusion, I wish to say that my microscope is my constant companion and a friend upon whom I have learned to rely with implicit confidence. I scarcely see how I could practice medicine without it. But aside from this, it reveals to me a world of beauty, which without its aid must forever remain unseen. When I was nine years old my father gave me a little compound microscope, and it was my greatest delight to look through it into the Wonder-land of Nature. Flowers, butterflies, insects, stagnant water, and hundreds of objects, both animate and inanimate, became my companions. I saw that the finest silk wove by the Lyons looms was coarse and rough when side by side with Nature's unpretentious strokes. The trees and rocks spoke sermons to me, and even then I knew that—

> "To him who in the love of nature holds
> Communion with her visible forms, she speaks
> A various language; for his gayer hours
> She has a voice of gladness and a smile,
> And eloquence of beauty; and she glides
> Into his darker musings with a mild
> And healing sympathy, that steals away
> Their sharpness, ere he is aware."

SUPPURATIVE HEPATITIS, WITH A REPORT OF THIRTY CASES COLLECTED IN NORTH CAROLINA.

By R. L. Gibbon, M.D., Charlotte, N. C.

Being one of the Essays to which was awarded the Pittman Prize. Read before the Medical Society of the State of North Carolina May 11th, 1893.

The prominence which the liver has always occupied in both the professional and lay mind has rendered its diseases of peculiar interest.

A better knowledge of pathology and greater diagnostic accuracy has enabled us, more perfectly than our forefathers, to discriminate between the real and the imaginary hepatic ailments. To the pioneers of our profession the liver was a breeder of "melancholly and humors of the blood;" to the laity it is still the *fons et origo* of all that robs life of its pleasure.

The complicated part played in the phenomena of life by this important organ furnishes, however, quite an extensive field for disordered action, and the list of hepatic maladies, both functional and organic, is a long one. While abscess of the liver is among the rarer of these affections, it is yet of sufficient frequency, even in our own State, to render a knowledge of its diagnosis and treatment of essential importance to every practitioner.

Suppurative hepatitis was well known to Hippocrates and his successors, who, however, were in the habit of describing quite a variety of diseases under this head. In some respects their observations were remarkably correct—Hippocrates used the cautery for opening the abscess when it pointed externally, and also made a distinction between inflammation of the liver substance proper and that of the capsule (perihepatitis).

It was a peculiar idea of Galen's that inflammation was resolved by such hemorrhage as flowed from the side affected; thus a flow of blood from the right nostril resolved an inflammation of the liver, from the left an inflammation of the spleen.

DEFINITION.

Suppurative hepatitis, the term usually preferred by systematic writers, "is an acute inflammation of the hepatic parenchyma terminating in suppuration." The disease has been classified into the acute and chronic, the diffused or circumscribed, and the primary and secondary or pyæmic abscess. These distinctions are not usually of much practical importance, and the symptoms, the post-mortem changes and the treatment of the abscess itself is not materially different.

FREQUENCY.

As is generally known, abscess of the liver is essentially a disease of tropical countries, and is comparatively rare in temperate climates. Within a period of twenty years only 15 cases are reported in Guy's Hospital, London; 5 of the 15 came from Southern countries. On the other hand, it is very common and fatal among the European residents of India. The natives are said to be less frequently affected.

It is to those, who in a tropical climate have had the opportunity of observing and studying a large number of cases, that we are mainly indebted for our knowledge of this disease. The admirable work of Morehead, Waring, Maclean and others in India, has enabled the practitioner of more fortunate latitudes to recognize and treat the isolated case which may occasionally fall into his hands.

Abscess of the liver is undoubtedly a rare disease in the United States, though it is found with comparative frequency in some localities.

Bartholow, who was for a number of years a resident of that part of the country, says: "Abscess of the liver is very common in the great interior valley of North America—along the Mississippi and its tributaries."

In our own State, and particularly throughout the more western section, liver abscess is rarely seen. Some practitioners of long and extensive experience tell me they have never seen an undoubted case, and that they believe the disease to be extremely uncommon in North Carolina.

In a somewhat extended correspondence with physicians in all parts of the State, I have collected quite a number of cases, of which 30 have been selected for this paper, the remainder being unavailable, either from the meagreness of the history, or from having occurred prior to the last ten or twelve years.

It is possible that a more general inquiry would increase this number, but I am persuaded that the cases here reported fairly represent the frequency of the disease in our State during the past ten years.

ETIOLOGY.

The exact nature of the germ or morbific material leading to pus formation in the liver has never been satisfactorily made out. As has been suggested by Dr. Dabney, of Va., it is probable that, under certain favorable conditions, there are quite a number of micro-organisms, or their products, capable of bringing about an abscess.

Osler, in his recent work on practice, quotes Councilman and Lafleur to prove the direct causation of hepatic suppuration to be the amœba coli. He says: "There is no doubt as to the direct etiological association of this organism with liver abscess." Whatever the morbific agent may be, there is little doubt but that the blood-vessels, and most commonly the portal system of veins, is the way by which the pyogenic matter reaches the liver.

There is little or no evidence that the lymphatics are ever the means of entrance.

Frerichs has stated that entrance of the germ from inflammation of the veins of the systemic circulation is of far greater frequency than from phlebitis of the portal vein. It is difficult to see how an embolus originating in one of the systemic veins and having to pass through the entire pulmonary circulation before finally reaching the liver, would be more liable to produce an abscess of that organ than where the materies morbi passed direct from some one of the portal system of veins. The improbability of Frerich's statement is well shown in the report of Waldeyer, who found hepatic abscess in only six per cent. of those who died of surgical diseases, while embolic processes in the lungs occurred in more

than two-thirds of the cases. Dr. Dabney quotes Klebs, who found that metastasis of the lungs occurred thirty-two times where it happened eight times in the liver.

In the 108 cases tabulated by Dr. Dabney there was only one where was any reason to suppose that the embolism passed through the systemic veins to reach the liver. In this case a man entered the hospital for an ulcer of the leg; after remaining there two months an abscess developed in the liver. It was aspirated and later incised and drained, and the man recovered. Injuries of the head were formerly supposed to be peculiarly productive of hepatic suppuration, and I find that some modern authors still hold to this opinion. Osler, for one, says: "Injuries of the head are not infrequently followed by liver abscess" The weight of authority, however, is against this view. The *Medical and Surgical History of the Late War* (Volume I.) reports nearly 1,300 cases of injury to the head, and yet there is no mention made of abscess of the liver following in any instance. I think, therefore, we are justified in concluding, as might *a priori* be expected, that hepatic abscess rarely results from injuries or disease of those parts of the body not adjacent to the liver, or connected with the portal circulation, and that passage of an embolus through the systemic veins, finally to lodge in the hepatic vessels, must be very uncommon.

DYSENTERY.

The frequency with which dysentery and intestinal ulceration precedes or accompanies suppurative hepatitis would seem to show a strong etiological relationship between the two diseases. This relationship, however, is very far from being constant, and it is exceedingly difficult to say what particular kind of dysentery or intestinal ulceration is most apt to be followed by an abscess of the liver.

Should the views expressed by Councilman and Lafleur, and concurred in by Osler, prove correct, then it is in amœbic dysenteries that we are most likely to have hepatic suppuration. The fact that the amœba coli has been found in the pus of liver abscess and in the intestinal discharges seems to point to this conclusion. Dr. Dabney thinks that most tropical abscesses are amœbic in character. Whatever view may be taken of this question, it is quite certain that every case of dysentery, even in the tropics, is not equally liable to be followed by an abscess. In Waring's 300 fatal cases of hepatic abscess, so frequently quoted by writers on this subject, only 27 per cent. were preceded by dysentery. In 50 fatal cases of dysentery reported by Morehead, abscess of the liver was not found once, and in 21 of his fatal cases of hepatic abscess there was no dysentery. Niemeyer remarks that epidemic dysentery in Germany has hardly ever been complicated with hepatitis, although it has been followed by extensive gangrene of the mucous membrane and putrid decomposition of the contents of the large intestines.

Dysentery was quite a common disease among the soldiers during the Crimean war, yet only one case of hepatic abscess was noted. In 150 cases of intestinal catarrh without ulceration, there was but one case of abscess, and in over 500

cases of flux with ulceration, there occurred but 23 cases (*Medical and Surgical History of the Late War*). Niemeyer and Finger record 311 autopsies in fatal cases of dysentery without finding a single abscess.

In contradistinction to the foregoing view, Budd holds dysentery and ulceration of the intestines to be the exclusive cause of liver abscess. Annesly also reports 29 cases of hepatic abscess in which 21 were associated with dysentery.

Fagge, in his "Practice of Medicine," says that the modern authorities, while denying the etiological value of dysentery and intestinal ulceration in liver abscess, have yet failed to give us a better cause for the disease. He adds, however, that the prevailing opinion, at the present time in India is, that abscess of the liver and dysentery are the results of a common cause. If we are to agree with Osler, this common cause could be no other than the amœba coli.

The liability to abscess is not necessarily increased by the severity of the dysentery or the extent of the ulceration. In numerous post-mortems on fatal cases of hepatic abscess ulcers of the intestines have been discovered which give rise to no symptoms during life.

Bartholow says that the dysentery, or proctitis, which he holds is a common cause of abscess of the liver throughout the Mississippi Valley, was often of so mild a character as to escape recognition.

Abscess of the liver very rarely follows typhoid or tubercular ulceration. The explanation has been advanced that Peyer's patches were connected with the lymphatics, and being very scantily supplied with blood-vessels, did not afford a suitable channel for the transmission of pyogenic matter. If there is anything in this explanation it is offset by a German authority who asserts that the vascular supply to Peyer's patches is very abundant. Very little can be said respecting the length of time which must elapse after an apparent recovery from dysentery before all danger of hepatic abscess is past. The fact that ulcerative processes may persist in the intestines long after all dysenteric symptoms have disappeared, while abscess of the liver may remain latent for a considerable period, renders any definite conclusion on this point impossible. Dr. Dabney quotes a case of O'Donnell where the dysentery preceded the abscess by nine years; also a case of Faunce and Rowan, where the abscess appeared eight years after the intestinal trouble. The relationship between the supposed cause and the effect in these cases is not very apparent, nor is it likely that any direct connection could be established.

Suppuration around the bile-ducts from retention of bile or the presence of gall-stones is at times productive of hepatic abscess. Dabney thinks that if the so-called tropical cases are left out, this cause of suppuration of the liver would be found to be comparatively common. In 2 of the cases which I have tabulated the abscess originated from retention of the bile. The patient in one instance having suffered from a catarrhal jaundice for some time previous to the appearance of the hepatic affection.

The presence of round worms in the hepatic duct is known to be a common cause of liver abscess in children. Musser has collected 7 cases of this character. Dr. Dabney refers to a case reported by Bates where, in addition to two abscesses,

42 round worms were found in the liver substance, and similar worms were present in the intestines. Abscess of the liver as a result of traumatism is not infrequent. The injury may consist in simple contusion, or penetrating wounds of the liver. Abscesses have also been known to follow fracture of a rib in the vicinity of the liver. Traumatism does not, however, seem to be a frequent cause in tropical abscess.

Morehead, in 318 cases, found only four which were due to traumatic causes. In our climate the proportion of traumatic cases is larger. Eight out of the 108 cases collected by Dr. Dabney were due to injury. Dr. Vogler, of Philadelphia, reports the case of a little girl 12 years of age, who developed an hepatic abscess from carrying a heavy flower-pot. The pain caused by the pressure of the burden on the right hypochondrium was very graphically described by the little patient, who was of slight and delicate build. The symptoms of hepatic trouble, as is usually the case in traumatic abscess, appeared in a few days. The tumor was aspirated first and later incised and a drainage-tube inserted, the patient making a good recovery.

According to Dabney, very few cases of hepatic abscess from penetrating wounds of the liver have been reported. In one of the cases selected for this paper the abscess was supposed by the attending physician to have resulted from the puncture of an aspirating needle. The patient (a man) was suffering from "peritonitis." A consultant was called, who, in the absence of the regular medical attendant, proceeded to make exploratory punctures. The needle was introduced into the right lobe of the liver. Six weeks after an abscess pointed at the seat of the puncture; a diagnosis of psoas abscess was made, and the abscess incised and drained. The patient, however, died of exhaustion, and at the autopsy an hepatic abscess was found involving over one-half the right lobe.

As there were no hepatic symptoms in this case previous to the puncture, it is quite probable that the abscess was the result of septic matter conveyed to the liver by means of an unclean needle.

PREDISPOSING CAUSES.

A tropical climate is, without doubt, the most powerful predisposing factor in the production of hepatic abscess. That causes other than high temperature are accountable for the prevalence of this malady in the tropics, is shown by the fact that all hot countries are not equally affected. Singapore (India) and Australia are said to be singularly free from liver abscess, while it is well known that the disease is much more frequent and fatal in the East than in the West Indies. Furthermore, if hepatitis were dependent upon high temperature alone, we would expect to find the number of cases increased during the warmer months of the year. According to Fagge this is not the case even in India, the admission to the European General Hospital, at Bombay, for hepatic abscess being greater during the colder months. Maclean, however, thinks that a high temperature, particularly if long-continued, is sometimes a very potent cause of suppuration of the liver. While both these authorities may, in a limited sense, be correct, it is very obvious that of the manifold climatic peculiarities which make up what

has aptly been termed the "Liver Abscess Zone," high temperature is only one element.

Malarial affections, by debilitating the general system, and weakening the resisting power of the liver, must also be classed among the predisposing causes of the affection. As has been suggested, it is quite likely that the conditions favorable to the development of the plasmodium malariæ are also suitable to the production of the amœba coli. Beyond this there is probably no other connection between the two diseases.

An examination of any number of cases of hepatic abscess will show a considerable percentage where malaria has preceded the appearance of the abscess. Dr. Haddad, in the "Transactions of the Ninth International Medical Congress," reports four cases of liver abscess occurring in Alexandria, Egypt, in three of which there was a strong malarial history.

I am unable to show from the cases collected in this State that suppurative hepatitis is very much more frequent in the malarial than in the non-malarial districts. With the exception of the extreme western section these cases were gathered from all parts of North Carolina. There is a prevalent opinion, however, and no doubt a correct one, that the affection is most frequently seen in malarial and miasmatic localities. Ten of the cases reported in this paper occurrep in malarial districts, though in only two was there a distinct history of chills and fever.

INTEMPERANCE.

Intemperance is very generally admitted to be a predisposing cause of hepatic suppuration. Fagge is the only exception to this statement that I have discovered; he claims that very little influence is exerted by intemperate habits in the production of the malady. The concensus of professional opinion, however, is clearly against this view of the subject. Five of the 30 cases here reported were addicted to the use of alcohol.

It is a remarkable fact that the female sex enjoys a very decided immunity from suppuration of the liver. This difference is most clearly shown in the tropical cases—thus, in Waring's 300 cases there were only 9 women. In 12 cases personally observed by Bartholow, only 1 was a woman. The experience of other authorities is much the same. In the 30 cases of hepatic abscess collected by the writer, only 2 are reported as occurring in females. Since this marked difference in the relative liability of the two sexes is not present prior to adult years, it constitutes a very strong argument in favor of the usually accepted opinion that intemperance and excesses of all sorts very decidedly increases the susceptibility to this disease.

Suppurative hepatitis is not a common affection during the earlier years of life. Only 34 cases under 15 years of age are reported in Keating's "Encyclopædia of Diseases of Children;" of these cases there were 15 girls and 18 boys, the sex not being given in one case. Traumatism was the most frequent cause (8 cases), round worms coming next, being the cause in 7 of the cases. The youngest patient was one year of age, while the average was nine years. Of the 30 cases reported in this State, there is only one instance of the disease occur-

ring in an infant. This case was under the care of a gentleman in Eastern Carolina, who aspirated the liver of a child 2 years of age for hepatic abscess. Four ounces of pus was withdrawn and the little patient ultimately made a good recovery.

PATHOLOGY.

The formation of an abscess in the liver does not differ materially from the usual process of pus formation elsewhere, the only variation being such as follows from the peculiar structure in which it occurs. Hence any detailed account of the initiatory process and subsequent mode of development will be omitted.

The location and number of the abscesses is of more immediate importance. Experience has shown that the right lobe is most frequently the seat of the malady, and that in the majority of cases where the left lobe is affected an abscess will also be found in the right lobe. In 169 cases the left lobe alone was diseased in 16 cases, while both lobes were affected in 35 instances (Waring's collection). Dr. S. H. Ward also reports post-mortem examinations of 20 cases in which there was a single abscess in 7, there being 2 or more in the remaining 13. In every instance where the abscess was single, it was situated in the right lobe. Dr. Dujardin-Beaumetz, in the *Bulletin General de Therapeut*, found that abscess occurred in the right lobe in 122 cases out of 136.

Abscess of the liver is single in 62½ per cent. of the cases, according to Waring. Out of 62 cases Dutraulean found 41 in which there was a single abscess, 16 in which there were 2, and 5 where there were 3. Maclean, in Reynold's "System of Medicine," reports a case of Dr. Parks' where the enormous number of 90 abscesses were discovered at the autopsy. Cases of this character are most usually pyæmic.

Dr. Dabney reports a case from the *Cincinnati Lancet-Clinic* where 4 abscesses developed in the same patient, one following another at intervals of several months; also another from Rozemont-Malbot, where there was a succession of 3 abscesses within a limited period. In both instances the final abscess proved fatal.

The contents of hepatic abscess has been variously described as "white," "creamy," "reddish," "dark-yellow" and "dark-brown." As a matter of fact, its character depends largely upon the nature of the abscess. Where there is a limiting membrane, especially if the case is one of long-standing, the pus is apt to be white or yellowish, and much less fluid than in the more acute form of the disease; when the abscess runs a rapid course and is of the diffused variety, the pus is frequently reddish-brown or "marbled" from admixture of blood and sometimes of bile. In these cases it also frequently contains shreds and debris made up of hepatic tissue. Osler and some others have on several occasions discovered the amœba coli in the pus of hepatic abscess, but in many cases it is entirely sterile, and the purulent collection has been known to enter the peritoneal cavity without doing harm. Such instances must be very uncommon, however, and do not justify an expectant treatment. Hepatic cells have not been found

in the pus of liver abscess as often as might be supposed. In many cases, where microscopical examinations have been made, no cells were present. It is probable that they are only found in those cases where no pyogenic membrane is formed.

The largest quantity I have seen recorded is 17 pints. Waring has reported two cases, each containing one gallon.

Statistics show that rupture is most liable to take place into the right thoracic cavity or the intestinal canal. Many cases also rupture externally. In rarer instances discharge has taken place into the abdominal cavity, the pelvis of the kidney, the pericardium and the vena cava, or the pus has burrowed downwards in the vicinity of the sacro-iliac junction. Occasionally the discharge may take place through several openings. Dr. Graves reports a case where there were three apertures into the stomach, the patient dying from a fourth opening into the pericardium. In 9 of the 30 cases presented in this paper, where spontaneous rupture took place, discharge was effected in every instance into the right thoracic cavity. In one instance, reported by Dr. Wilson to the North Carolina Medical Society at Asheville, there was rupture into both the right lung and the gut. After the escape of pus the walls of the abscess, in favorable cases, come together and healing takes place, often so perfectly that no scar is visible.

In a considerable proportion of cases rupture does not occur. In Waring's 300 cases 169 remained intact. In this class of cases absorption occasionally takes place. Morehead reports three instances where resolution undoubtedly occurred.

SYMPTOMS.

Many cases of hepatic abscess present no symptoms whatever, the rupture of the sac and escape of pus being the first indication to either the patient or his medical attendant that the liver is affected. It has been asserted that these latent abscesses are always chronic, but there are numerous exceptions to this statement.

Dr. Joseph Gabriel, of Cairo, Egypt, reports a case where the abscess ruptured into the lung two months after all symptoms of hepatitis had subsided, and the patient was up and attending to his business.

More numerous still are those cases where the symptoms pointed to diseases of other organs. A more interesting case of this kind is reported by Dr. Eichberg, of Cincinnati, where a diagnosis was first made of phthisis, then of lobar pneumonia, and finally of pleurisy with pus. An abscess of the liver was ultimately discovered by means of the aspirating needle, and a large quantity of pus evacuated. A resection of the 6th and 7th rib was made, but the patient died on the second day after the operation.

In the more regular type of the disease, the constitutional and local symptoms are much more marked. There is often an initial chill followed by fever, though the temperature does not usnally run over 102° to 103° F. The fever may be of the remittent or intermittent type, most commonly the former. A rigor followed by fever and sweating announces the formation of pus, though there are many cases where these symptoms are absent, or are so slight as to be over-looked.

The disturbances of the digestive organs are such as may be present in any febrile affection, and therefore do not possess much value from a diagnostic standpoint, except in those cases where the abscess, by pressing upon the stomach, excites a persistent vomiting; from a similar pressure upon the intestines an irritative diarrhœa may occur. In conjunction with other symptoms, persistent emesis may prove a valuable indication of abscess of the liver.

Jaundice is comparatively rare, though the skin frequently has a peculiar earthy or fawn-colored appearance. Where it does occur its presence may be due to pressure or is merely incidental.

The occurrence of respiratory symptoms depends greatly upon the location of the abscess. There is usually, however, some dyspnœa with cough and pleuritic pain, all of which would be increased should the abscess tend to rupture into the thoracic cavity.

Pain, or at least a sense of soreness, or weight in the hepatic region, is quite a constant symptom. Reflex pain in the shoulder of the affected side is much dwelt upon by some authors. As this pain is by no means always present, its absence has little weight as a negative sign.

Urinary examination in some cases reveals an increase of urea, and more rarely the presence of casts; in the majority of cases, however, no examination of the urine is made. The most definite indications of hepatic abscess are derived from a physical examination. In most instances there is a decided prominence in the right hypochondrium, with an increase of the area of liver dulness. In the writer's case the hepatic dulness extended midway between the right costal margin and the crest of the ilium. Where the abscess is situated in the left lobe the swelling will be more in the epigastric region.

Tenderness and pain on pressure are rarely absent, while the decubitus of the patient is also suggestive—there is a tendency to relax the muscles by a lateral inclination of the body, and in some instances by bending forward.

In this brief resumé of the local and constitutional manifestation of hepatic abscess, only those symptoms which are recognized as most constantly present are mentioned. Any or all of them may be absent, but it is rare that a careful physical examination will not discover some indication of the disease.

It would exceed the limits of this paper to speak in detail of the complications which may affect the course of hepatic abscess. With the exception of dysentery, peritonitis, pleurisy and pneumonia, all of which have been previously referred to, complications are uncommon in this disease.

The course and duration of hepatic abscess is very uncertain. So variable a disease sets at defiance any attempt to formulate rules. An analysis of a large number of cases has shown that discharge is frequently effected by means of thoracic cavity, the abdominal parietes or the intestines; of these three rupture through the lung is most common and the most favorable to life, about one-half of such cases terminating in recovery.

The mildest cases of liver abscess rarely last less than six or 8 weeks, and this period may be very much prolonged. Incomplete recovery may result from extensive loss of the hepatic structure or from the existence of a fistulous opening, the patient being finally exhausted by the continuous discharge.

In two of the cases selected for this paper the recovery was incomplete; the abscess was still discharging when seen two years after the first escape of pus. Both cases were dead at the end of five years, but whether from causes directly attributable to the abscess, or from some other disease, the history does not state. I incidentally learned of a case in this State where an abscess of the liver continued to discharge through a fistulous opening for upward of thirty years, the patient living to old age. In this instance there was probably a small sinus and slight discharge.

"Suppurative hepatitis," says Frerichs, "belongs to that class of severe maladies which imperil life and which terminate in death far more frequently than in recovery." Birch Hirschfeld remarks that "idiopathic abscess of the liver usually results in death at the end of a few weeks."

Of the 34 cases reported in Keating's "Encyclopedia of Diseases of Children," 12 recovered—a little over 46 per cent. ending fatally. It is further stated that of the 12 favorable cases, only one can be credited to the unaided efforts of Nature. Of 13 cases which received surgical treatment, 11 recovered. I shall presently, however, have more to say in regard to the effect of operative treatment on the prognosis. In 203 cases of abscess of the liver reported by Rouis, 162 ended fatally, being a mortality of 80 per cent. Bartholow states that the mortality of 12 cases occurring in his own practice was 75 per cent. In Dr. Dabney's 110 cases the mortality was 60 per cent. The death-rate in the 30 cases reported in this paper was 50 per cent.—a very creditable result, considering the fatal nature of the disease. The average mortality of any large number of cases will probably not be less than 70 per cent.

Regarding the prognosis in any special class of cases, I merely quote the quaint and rather broad statement of Cullen, that "the prognostics of this disease are established upon the general principles relating to inflammation, upon the particular circumstances of the liver and upon the particular state of the inflammation."

Any elaborate discussion of the "particular circumstance" and the various complications and accidents affecting the termination of liver abscess, must of necessity be largely a repetition of what may be found in any good text-book, and for this reason I shall have very little to say upon this part of the subject.

The influence exerted upon the prognosis by a correct and active treatment is of more immediate interest. Below I have attempted to tabulate the cases reported by Dr. Dabney in such a way as to show the extremely favorable results from surgical interference as compared with the unaided efforts of Nature:

	No.	Died.	Mortality.
Total number of abscesses.....	110	67	60 p. c.
No. of cases treated surgically....	59	21	35 p. c.
No. of cases receiving no operative treatment.....	46	38	82 p. c.

In five cases the treatment is not stated.

Other things being equal, this analysis shows a clear gain of 47 p. c. in favor of active interference with these cases. An examination of the North Carolina cases gives an almost similar result:

	No.	Died.	Mortality.
Total number of cases...	30	15	50 p. c.
No of cases receiving no surgical treatment.....	9	7	77 p. c.
No. of cases receiving surgical treatment.....	21	8	38 p. c.

Here the difference in mortality between the cases receiving surgical treatment and those which did not is 39 p. c.

Prof. Dujardin-Beaumetz, who is a strong advocate of prompt surgical interference, gives the following statistics on this point: "Of 120 cases without operation, the mortality was 80 p. c., whereas the mortality in cases operated on was only 32 p. c.

In the "Transactions of the Medico-Chirurgical Society of Alexandria, Egypt," the mortality from non-interference in very large abscesses was 88 p. c.; surgical treatment of similar cases gave a death-rate of 32 p. c. Such a uniformity of results demonstrates, beyond all peradventure, the favorable influence exerted by surgical treatment upon the prognosis of liver abscess.

It would be interesting to note in this connection the mortality in those cases where treatment was resorted to promptly, as compared with those where surgical measures were not used until late in the disease. Unfortunately, there exists but little data for such a comparison.

DIAGNOSIS.

"He who finds the diagnosis of abscess of the liver easy under all circumstances, can have had but little experience with the numerous difficulties in the way of a correct opinion. There are cases so plain that the most casual inspection suffices to form a conclusion—there are cases so difficult that the most elaborate study fails to unravel the mystery." It will hardly be necessary to give in detail the differential diagnosis between hepatic abscess and the numerous diseases with which it may be confounded. Where pain and enlargement in the vicinity of the liver occur in connection with fever, and it may be with rigors and other indications of pus formation, attention is at once directed to the liver, and a careful examination will rarely fail to reveal the nature of the trouble.

When enlargement exists with neither fever nor pain, as in hydatids or ecchinococcus, and in those instances where from the obscurity of the hepatic symptoms a correct conclusion is impossible, the crucial test of puncture with the exploring needle becomes a measure of necessity. Even after pus has been withdrawn by the aspirating needle, there are a certain number of cases where the diagnosis remains in doubt, and a decided opinion is only reached by the use of the microscope. Koch has shown constant association of amœba coli with tropical abscess, and Osler has on several occasions diagnosed abscess of the liver by finding the amœba coli in the sputum of patients where rupture had taken place into the bronchi.

A microscopical examination is of special value where the abscess encroaches upon the lung, in some instances pushing the diaphragm as high as the second

or third rib. Such cases present peculiar difficulties, as the physical signs and the symptoms are much the same as in empyema. Here a microscopical examination of the contents showing the presence of hepatic cells or the amœba coli would indicate the source of the pus. The same test would differentiate an hepatic abscess from an abscess of the abdominal wall situated over the liver, often a matter of perplexity. A large experience has shown the harmlessness of exploratory puncture when properly performed. It is true that accidents have occurred from this practice, and Morehead says that the use of the exploring needle in cases of doubtful diagnosis was condemned and abandoned by Indian physicians. Dr. Reeves, of Dayton, Ohio, has reported an instance where death occurred while the needle was being introduced into the liver, but I am (unfortunately) ignorant of the particular circumstances of this case. Dr. Godlee refers to the danger of internal hemorrhage resulting from puncture of a blood-vessel, and attention has already been called to a case in this State where an abscess was caused by the neglect of antiseptic precautions in making the puncture.

Exploratory puncture of the liver has now been performed so many times, and so rarely have unfavorable symptoms been produced, that the procedure has received the unqualified endorsement of the profession.

Those few instances where the puncture has apparently resulted badly for the patient, should serve to impress the necessity of thorough antiseptic preparation and the carrying out of all proper precautions; when this is done, any danger from puncture of the liver is very remote and cannot compare with the more immediate evil to be apprehended from the unsuspected presence of an abscess.

Before leaving this portion of the subject it would perhaps be well to mention two circumstances under which the use of the aspirating needle is apt to prove misleading.

In cases of long-standing, and in some of more recent origin, the fluid portion of the contents being absorbed, the residue is too thick to flow through the needle, and hence the erroneous opinion may be formed that no abscess is present. The same mistake may be made in an abscess of small size, the needle failing to enter the sac. The failure to find pus is therefore not always to be considered as an absolute proof that none is present. With such difficulties in the way of a definite conclusion, we cannot do better than adopt the advice of Frerichs: "In most cases a correct diagnosis will only be arrived at by not relying upon individual symptoms, by taking a general view of the mode of origin and entire clinical history of the case, and after excluding by comparison the disease of the liver and of the neighboring parts, which may give rise to symptoms similar to those of hepatitis."

TREATMENT.

The remedies formerly in vogue for the relief of a patient suffering from hepatic abscess were such as were commonly prescribed for inflammatory affections, no matter where situated. To bleed, to blister, to purge—to maintain a constant "brassy taste" in the mouth by the free exhibition of mercury, and

similar measures more destructive to the patient than to the disease, were regarded as the *sine qua non* of any successful treatment.

We have now learned that it is wrong to adopt a spoliative system of practice in a malady where the condition sooner or later becomes one of asthenia. Belief in the aplastic power of mercury, once an article of faith with every orthodox physician, is also a thing of the past, and modern medical science, with its tendency to exact methods, has substituted an equally active, but far more successful, treatment for this disease.

No one acquainted with the present mode of treatment would hesitate to say that the measures necessary for the relief and cure of hepatic abscess are essentially surgical in character, and the most optimistic therapeutist must admit that medicinal means occupy here a strictly secondary position. Of the two operative procedures resorted to for the cure of suppurative hepatitis, that of free incision for drainage probably has the most numerous advocates and gives the speediest and surest relief. Aspiration alone is sufficient to effect a cure in a certain class of cases, where the abscess is small and the contents can be entirely removed; but it often happens that the pus cannot be completely evacuated in this manner, or reaccumulation takes place, the constitutional symptoms return and the operation has to be repeated a number of times. As has been well remarked: "Imperfect removal of pus by one or more aspirations or punctures, permitting more or less to remain behind, will, in addition to that constantly forming, undoubtedly keep up constitutional disturbances, and finally produce a fatal issue by rupture or blood-poisoning, if the very rare act of absorption does not take place."

Aspiration alone, however, has succeeded in giving permanent relief in quite a number of cases. In a case treated by the writer, the abscess being of moderate size, and occurring in a young girl 12 or 14 years of age, several evacuations of the pus in this manner resulted in complete recovery. In two other instances occurring among the cases reported in this paper, a cure was effected by the use of the aspirator alone.

A combination of the two methods is possibly the most usual plan of treating liver abscess in the hands of the general practitioner. There are obvious advantages in such a course—the repeated punctures faclitate the formation of adhesions, aid in locating the position of the abscess and render the late operation of incision and drainage less difficult. Moreover, aspiration, with the evacuation of more or less pus, alleviates the distress of the patient and lessens the danger of delay. On the other hand, the possibility of spontaneous rupture from the rapid reaccumulation of pus, or the complete exhaustion of the vital forces consequent upon an imperfect and tardy relief, shows the necessity of carefully selecting our plan of treatment for individual cases. Incision and drainage may be regarded as the most satisfactory treatment in many cases of suppurative hepatitis. This method is advocated by some eminent authorities as a proper procedure in every case, and there can be no doubt that, in the hands of competent surgeons it has given the best results.

The manner of operating depends largely upon the absence or presence of

adhesions between the liver and the abdominal wall. Where the liver is attached an incision can be made directly down to the abscess cavity. Dutraulean aspirates first, and then, using the needle as a guide, makes a free opening with the knife; his plan is especially good where the abscess is located deeply in the liver.

Should it become necessary to operate before adhesions have taken place, certain preliminary measures must be employed to bring about attachment between the liver and the abdominal parietes. The use of the cautery for this purpose has been strongly recommended by foreign surgeons. Little, of Shanghai, reports great success from the Pacquelin cautery, and Bardier, in his "Treatment of Abscess of the Liver" (*Jour. de Therap.*), describes the method used by the African empirics from time immemorial, who first cauterize the parts with a red-hot iron, and, after waiting a few days, open the abscess with the knife.

The plan usually employed by American surgeons is, I think, much more scientific and exact. It is thus outlined in Gerster's "Aseptic and Antiseptic Surgery": "The incision of hepatic abscess located in the unattached liver, requires some special precautions. The abdominal wall opposite the tumor is incised under a strict observance of the rules laid down for laparotomy, so as to expose the liver. The incision is packed with iodoform gauze, and a dry dressing is applied. In three days firm adhesion of the liver to the abdominal walls will be established, when, the packing being removed, the liver is punctured, and pus being found, is freely incised and the cavity evacuated and drained." A more rapid method now being advocated consists in stitching the liver to the edges of the abdominal wound and incising the abscess at once.

It is interesting to note that, about the year 1839, Dr. Horner, of Philadelphia, published a case of hepatic abscess on which he operated, and, finding the liver unattached, stitched it to his abdominal incision and evacuated the pus. His patient died five days afterwards, but not, it is stated, from peritonitis. Dr. Horner's case is probably the first recorded instance where such an operation was done, and a certain Edinburgh professor of that day stigmatized it as "barbarous practice." Now, this procedure is recognized as entirely practical and legitimate, though the occasions where it is necessary are limited.

It is a matter of regret to the writer that, from the short time occupied in getting up this report, the errors, both literary and scientific, must be most apparent to a critical eye; the difficulty in getting a definite history in some of the cases also detracts from the completeness of the paper. Notwithstanding these deficiencies, I trust that my efforts may not be altogether without some practical interest to North Carolina medical men.

APPENDICITIS: VIEWED FROM A PERSONAL STANDPOINT.

By J. W. Long, M.D., Randleman, N. C.

Read before the Medical Society of North Carolina, Raleigh, May 9th, 1893.

I have not attempted to write an *exhaustive* paper on this important subject. Dr. Galloway, a distinguished Fellow of this Society, read at our Asheville meeting, two years ago, a most excellent paper on Appendicitis, discussing many of the essential points regarding this disease, and bringing the subject well up to date. It is to be feared, however, that the views expressed by Dr. Galloway, while receiving hearty endorsement in the discussion which followed, have not met with that general acceptance, nor have they been put to the practical test, which the importance of the subject and the sacredness of human life demand. Certainly, a large number of physicians and surgeons throughout the State *are* wide-awake to the necessities of these cases, but the average practitioner is much more concerned about "worms," "biliousness," "liver complaint," "the colic," and other charitable mantles for ignorance. This should not be, when we remember that North Carolina presents as fine an array of professional talent as any State in the Union. Again, it has been demonstrated by post-mortem that *one-third* of the human family have had, at some time in their lives, this particular form of inflammation, yet I know physicians of ability and reputation who have practiced medicine more than a score of years without ever seeing (?) a case of appendicitis.

It is for the express purpose of calling anew the attention of the profession to this subject that I venture before you to-day. Furthermore, I shall discuss this question largely from the standpoint of *my own experience* and *my own convictions*. I do this, first, because my hearers are probably more conversant than I am with the current literature of the subject—with all its excellent papers by Treves, McBurney, Stimsen, McMurtry, Morris and others; second, because the most valuable lessons to any man are his own experiences; third, because I see gentlemen here with vastly more experience than I have in dealing with appendicitis, and I hope to provoke them to discuss this subject; and lastly, because it is hard to discuss any question apart from one's own prejudices and convictions.

For all practical purposes we may recognize three forms of appendicitis:

1. The catarrhal form.
2. Perforation with adhesions.
3. Perforation without adhesions.

I confess that, pathologically, this classification is perhaps not the best, and that clinically these various forms are often indistinguishable. Again, a case which may present all the symptoms of a mild catarrhal case, may suddenly assume that most fearful of all forms—perforation without adhesions. So true is this that, while a classification of this sort is perfectly justifiable for the purposes of discussion or study, yet I doubt if any one can stand by a given case in its incipiency and say whether or not perforation will take place.

I. THE CATARRHAL FORM.

We will consider first the *catarrhal* form. In this variety the inflammation begins in the mucous or inner coat, expending its energies there, and sometimes involving the muscular and peritoneal layers, but with no signs of an ulcerative process. In this condition the opening of the appendix into the cæcum remains patulous, so that no fluids or foreign bodies are *imprisoned* within the narrow confines of the cavity of the appendix, the case goes on, usually, to rapid recovery. This is the class of cases that get well under any form of medical treatment, and these cases are often quoted to the disparagement of surgery.

The following case will illustrate this form:

Case 1.—C. C. R., a young man of 22 years, ate a quantity of chestnuts on November 4th, 1890. The next day he visited a neighboring town, and while there was taken with cramps in the stomach. A physician prescribed some simple remedy which gave temporary relief. Returning home that night, I saw him about 10 o'clock. He complained of cramps and pains in his stomach, but not in his bowels. Examination of the abdomen did not discover tenderness anywhere except in the gastric region. He was nauseated and vomiting some. He was given a full dose of ipecac and warm water, which emptied his stomach, after which he was quieted with a hypodermic of morphine. The next day his stomach was easy, but he complained of soreness in the ileo-cæcal region. Tenderness was well-marked one inch below the classical McBurney's point. It is to be remembered that Dr. Burney himself says the tender-spot, while usually on a line from the antero-superior process of the ileum to the umbilicus and two inches from the spinous process, yet it may be above or below this point. This is accounted for by the fact that no organ in the abdomen is so variable in its position as the appendix. At this time no tumor could be felt, but slight dulness was observed. The patient could straighten his right leg, but felt easier with it drawn up. The third day his temperature touched 103°, pulse 112. The fourth day the symptoms were about the same, except that a small tumor could be felt at the site of the appendix, and his temperature reached only 102°. The treatment was small doses of salts, anæmas, opiates and hot fomentations. By the fifth day the young man was perceptibly better, although the tumor could still be felt.

On the sixth day the tumor was less and all the symptoms giving way. From this time his recovery was uninterrupted. He has had no return of the attack.

The difficulty in these cases is to tell, with any degree of certainty, whether or not perforation is present or threatened. I am governed largely by the *severity* of the symptoms and their tendency to *increase*. At the same time I am conscious of the fact that these are not always safe guides. Some of the cases embodied in this paper show that those very cases which start out as, and apparently are, mild catarrhal cases, suddenly assume alarming and even fatal symptoms. At the same time I cannot bring, or at least have not brought, myself to believe that we should operate every time and wherever we diagnose appendicitis. In saying this I know that I lay myself open to the aspersion of being behind

the times, for I have heard scores of eminent surgeons say: "Operate as soon as you diagnose appendicitis." But as far as my own little practice is concerned, I reserve for myself the right to use some discretion in selecting a case for operation, therefore I operate only when I am convinced there is urgent necessity for an operation. The man who heedlessly opens the abdominal cavity for any purpose, especially in the absence of the most approved facilities for perfecting the technique of the operation, ought to take an hour or two alone with his conscience once in a while.

2. PERFORATION WITH ADHESIONS.

This constitutes the next largest class of cases. Fortunately, the peritoneum is highly endowed with the property of taking on *adhesive inflammation* on slight provocation. So that an ulcer starting in the mucous, or inner, coat of the appendix and advancing slowly through the muscular layer towards the peritoneal layer, excites an inflammation in the adjacent layers of the peritoneum. which, becoming adherent, protects the general peritoneal cavity from the intestinal contents which are poured out through the perforation in the appendlx, as well as from the infectious micro-cocci contained in the inflammatory products. This is certainly a wise provision of Nature, and thereby thousands of lives are saved annually. Were it not true, perhaps 500 or 1,000 people would die of appendicitis every week, against the 100 who are believed to die weekly from this dread disease. These are the cases of so-called "perityphlitic abscesses," so much written about a decade ago.

Case 2.—I was asked to see Mr. P's little boy, 7 years old, who had been in bed with colic and soreness in his bowels for three or four days. I found him lying on his back with the right leg strongly flexed and a small, tender tumor at McBurney's point. There was a slight rise of temperature.

Being called from home, I did not see the child again for five days, when I discovered the symptoms all exaggerated, with slight tympany and a distended bladder, each act of urinating giving him great pain. I immediately decided on an operation, and called in Drs Woollen and Fox, who, with some kind neighbors, gave great assistance. An incision was made directly over the tumor, and an abscess containing one or two gills of pus opened. The cavity was thoroughly flushed with warm water, and drainage established by means of a glass drain and iodoform gauze. The adhesions were not disturbed.

This little fellow's recovery was uneventful, except that his water had to be drawn for several days.

As stated, these *adhesions are the safeguards* which Nature has thrown out to protect the peritoneum from infection; but unfortunately, these are so *delicate* that they are *broken down* and the infectious contents of the abscess escape into the general peritoneal cavity, causing a *suppurative septic peritonitis.* Sometimes at operations we find these adhesions so delicate that the slightest touch breaks them down. A recent case will illustrate this point:

Case 3.—Miss L. G., aged 24, usually a vigorous young lady, but for the past two years has suffered with "colic" at each period. About the last of June

(1892) she had, not at the time of a period, a severe spell of colic and cramping in the stomach and bowels, which subsided under the use of some domestic remedy.

On the evening of July 12th (1892) she ate some peanuts. Next morning (Wednesday) she awoke with colic. However, she got up and went about her usual work, but at noon was compelled to take her bed. Her mother gave her a dose of Simmons' Liver Regulator, which moved her bowels in the early part of the night three or four times. She still suffered with the colic and complained of her right leg hurting her when she got out and in bed to the commode. In the night she took an opiate without relief.

Thursday she was no better. Dr. Woollen saw her and prescribed opiates and calomel in small doses. At this time she had fever and a frequent pulse and a ghastly pallor. On this evening Dr. Woollen discovered a tender place in the right side of her abdomen. He ordered mustard applied locally.

Friday the symptoms were about the same, except, perhaps, the tender spot was more pronounced. I saw her this p. m. McBurney's point was well-marked, slight tympany was present, and a tumor was discovered at the site of the appendix. I advised an operation if she was no better by Saturday. Saturday brought no relief. Dr. W. A. Fox was added to the consultation, and he confirmed the diagnosis and the advisability of an operation. By Sunday we had gotten everybody's consent to an operation, and we were ready to operate, but were unavoidably delayed till the next day.

Under ether, and with full antiseptic precautions, an incision was made parallel with the crest of the ileum and over the prominence of the tumor. The parietal peritoneum was found thickened and inflamed. This membrane was lifted with the dissecting forceps and carefully divided with the scissors, when an abscess containing three gills of pus and detritus was opened. After washing out the abscess cavity, the gangrenous appendix was seen lying at the bottom of the cavity. On the other side of the appendix, near its base, was seen a perforation with what proved to be an apple-seed half protruding. In attempting to ligate the appendix, the ligature cut through, and still has the distal portion hanging to it, as you will observe as the specimen is passed around; you will also notice the apple-pip and two small enteroliths found in the appendix.

While quietly searching for all the little nooks and pockets of pus, the *finger broke through the adhesions* towards the median line, entering the general peritoneal cavity. The adhesions at this point were so frail that, had the patient turned suddenly in bed, or had a single hard sneeze, they might have ruptured, and thereby *turned these three gills of putrid, infectious pus into the general peritoneal cavity*, adding another to the already long list of fatalities from appendicitis. This young ladys' cavity was flushed with warm sterilized water, the abscess cavity carefully packed with iodoform gauze around a glass drainage-tube, an antiseptic bandage applied and the patient put to bed—all before she realized what had been done. Her recovery was uneventful. She has since married and s, I trust, very happy.

I have long since ceased to dread opening the general peritoneal cavity in

these cases, I believe, with Dr. Morris, that it is best to *break down the adhesions* and do a careful toilet of the peritoneum.

Another important reason why the adhesions should be broken down and all pockets of infectious matter thoroughly removed, is that in these cases it often happens that there is *more than one pus cavity*, either when we operate, or formed directly afterwards. This has occurred twice in my practice.

Case 4—F. J., a young man of 17 years, ate heartily of scuppernong grapes, swallowing the seed with the pulp. This was on Wednesday afternoon. Next morning he awoke with cramping in his stomach and bowels, especially around the umbilicus. The pains lasted all day Thursday. In the evening he took a dose of some soothing liniment. Friday he was no better, and had to go to bed at noon. Dr. W. C. Fox was called and gave morphine hypodermically and prescribed a colic mixture. Saturday found the patient about the same, and Dr. Woollen was asked to see him. At 8 p. m. he was taken much worse, and I was asked to join the consultation. He was suffering extremely with pains in the abdomen and great tenderness in the ileo-cæcal region. McBurney's point was well-marked. Slight circumscribed dulness was observed at this point, but no tumor could be discovered. The muscles of the whole right side of the abdomen were as hard and rigid as stiff card-board, while those of the left side were comparatively soft and yielding. His temperature was 103½° and pulse 120. Appendicitis was diagnosed, the situation explained to the patient and family, and an operation proposed for the next day, which was readily assented to. We gave him enough morphia hypodermically to keep him comfortable through the night. The next day (Sunday) the patient seemed a little better, the temperature touching only 103°. The operation was therefore deferred a day. By the following day (Monday) he was improving perceptibly, the temperature reaching only 102.5°, tenderness less, abdominal pains less, although at this time a small tumor could be felt in the ileo-cæcal region.

Tuesday found him still better, fever less, etc. By this time the idea of an operation was about abandoned. On Wednesday and Thursday morning I was detained in the country on a surgical case, and did not see this young man again till Thursday afternoon, when I found him much worse, and a decided tumor present. His temperature was only 100°, but his pulse was 120 and not very strong, pains in his bowels, also great pain in bladder when attempting to pass his water. An operation was at once decided upon, to be done immediately. Under full antiseptic precautions an incision was made over the tumor and parallel with the crest of the ileum. Cutting down carefully, a large abscess cavity containing a pint of pus was opened. The cavity was thoroughly irrigated with sterilized water and the appendix looked for, but could not be found. The adhesions were not disturbed. A glass drainage-tube was inserted and the space about it lightly packed with iodoform gauze. The patient, on regaining consciousness, expressed himself as feeling much better.

The only incident during the operation worthy of mention is that, under ether, the breathing stopped suddenly and completely; this occurred several times, but fortunately, was easily started again by withdrawing the ether and employing

artificial respiration. A change to chloroform gave better results. The next day (Friday) the dressings were found saturated, and were changed, as they were every day thereafter. The patient was much better in every way. For several days after this convalescence seemed to be progressing satisfactorily, except that he still complained of some pain in his bowels, and after a few days a great deal of pain over the bladder when trying to evacuate his urine. On Monday he began to complain of frequent painful desire to go to stool. This latter symptom increased in frequency and severity till Wednesday, when a large quantity of foul-smelling pus was passed per anum. This gave great relief. However, by the next day, we felt that our patient was not doing well, therefore we proceeded first by passing a small exploring needle through the former incision in the direction of the secondary abscess. Withdrawing the needle, a small quantity of pus was seen. This determined us to do another operation, which was done with all the antiseptic precautions employed in the former operation. Enlarging the first opening with the scissors, the fingers were introduced, and, while feeling around carefully to discover the presence of the pus sac, the adhesions broke down and my fingers passed into the general peritoneal cavity. Thinking that a fellow might as well be hung for stealing a sheep as a lamb, I proceeded boldly to *break down all the adhesions* and thoroughly flush out the abdominal cavity. Two glass drains were inserted, the larger one so arranged as to drain the pelvic cavity, and the tubes surrounded with gauze. From this time the history of the case was uneventful, the young man getting out by the end by the fourth week. However, after several months, a ventral hernia appeared at the site of the incision; this we proposed to relieve by operation.

The interesting points about this case are: (1) The patient ate *grapes* one afternoon. (2) The next morning had *colic*, which gradually increased in severity till the evening of the third day, when (3) *Perforation* took place, followed at once by great pain, exquisite tenderness and rigidity of muscles on right side of abdomen. These symptoms were of course due to the intestinal contents passing into the peritoneal cavity. Fortunately (4) *Adhesions* had been thrown out in advance, and they protected the greater part of the peritoneum from infection These adhesions may aptly be compared to the mud dams boys sometimes build to head off, or stop the flow of, a little spring branch; but, like the little spring branch, which, after a time, gains in volume and head and sweeps away the boy's little mud dam, the time comes in many of these cases when the escaped intestinal contents and putrid pus refuse to be confined longer by the frail peritoneal adhesions, thrown out by Nature to save the peritoneum and *give the surgeon time to make up his mind to operate;* and, bursting the narrow and uncertain confines of their abscess-prison walls, sweep into the general peritoneal cavity, quickly setting up a septic purulent peritonitis; and the scene is ended by the horrible death of the patient, while the doctor sits round and wishes he had operated "before it was too late"!

In the case just given, I confess that I should have operated when I first saw the patient, immediately after perforation took place; I probably should not have waited till morning; but I hesitated, the patient, under the use of morphine and

soothing applications grew quiet, his temperature daily became less, and doctors and family were lulled into a false sense of security which came well-nigh proving fatal to the young man. I do not believe in operating in every case of appendicitis (not by a long jump), but I do believe that when we have any clear evidence of perforation, present or impending, we should *operate at once!*

The special reason for citing this case is to call your attention to (5) the *secondary abscess.* I am not sure whether it was present and overlooked at the first operation, or whether it formed soon afterwards. Certain it is that the second abscess was almost, if not quite, as serious as the first. Had the adhesions been broken down at first, as in the case of L. G. (*ante*) I do not believe there would have been another abscess. Therefore I shall after this break down the adhesions and do a careful toilet of the peritoneum.

Still another feature of this case is (6) the *ventral hernia* which followed several months later. This has happened in three of my cases, but must be considered a comparatively trivial matter when compared with the urgent necessity for *saving life* at the time of the operation. Again, hernia may in most instances be avoided by an improved manner of closing the incision; besides, if hernia does occur, it can afterwards be remedied by operation.

3. PERFORATION WITHOUT ADHESIONS.

The third and last class of cases to which I shall ask your kind attention we have called *perforation without adhesions.* These are the most desperate and rapidly fatal cases we see, and *invariably die* without an *early operation.* I can best illustrate this variety by giving a case which came under my observation and occurred in the person of one of our most reputable Randolph county physicians.

Case 4. Dr. S. C. was 37 years old and of stout physique. Within the two years preceding his fatal attack he had had two spells of what *he supposed* was nephritic colic, or, more properly, the passing of a calculus along the ureter. These attacks were both on the right side, each lasted him several days and caused him much suffering.

On Monday night he went to bed in usual health. Tuesday he had two rather loose motions from the bowels before breakfast. However, he felt no further inconvenience, and after breakfast went back on horseback, riding 16 miles through the day. That evening he felt some uneasiness about the bowels and took three compound cathartic pills. Wednesday his bowels moved freely, and he felt pretty well, but laid around the house all day, not going to his office. That night he took calomel (grs. ix) in three portions. Thursday morning he had a severe pain in his bowels. Pretty soon his bowels moved twice, the motions being natural in color and consistency. Directly after this he was seized with an *intense, agonizing* pain in the ileo-cæcal region, requiring three-fourths of a grain of morphine hypodermically before the pain became at all tolerable. A telegram was sent for Dr. W. A. Woollen, who reached him about noon, and found him still suffering greatly. Dr. C. thought he was having another attack of nephritic colic. (?) He suffered extremely all that evening and night. Friday

Drs. A. J. Patterson and J. K Stockard saw the case with Dr. Woollen. At this time the patient was growing rapidly worse, and showed marked signs of failing. In the afternoon a dispatch was sent asking me to join the consultation, but the wires being down, I did not receive it. That night a messenger was sent through the country fifteen miles to my house. I started at mid-night and rode till nearly day, only to find the patient dying. A consultation was held, and I earnestly pleaded for an autopsy. Through the influence of Drs. Patterson and Woollen the autopsy was granted. Although the patient was moribund all night, he did not breathe his last till 3 p. m. Saturday.

Autopsy.—An incision was made over cæcal region. When the peritoneal cavity was opened a half-gallon of fœtid pus poured out through the opening, and the dose of *castor-oil* given the day before came *floating out on top*, showing conclusively that the *bowel was perforated.* The appendix was found *gangrenous*, standing out stiff like an icicle, and broke off at the slightest touch. The greater part of the peritoneum was involved, the colon being adherent throughout nearly its whole length. The bladder was empty, nor could any stone be found in the ureter.

This was a sad case—to see a stout, vigorous man cut down in the prime of life and in the midst of life's duties—stricken down as suddenly, and as surely fatally, as though shot through the abdomen. But the saddest part of it is that *his is not an isolated case.*

This man evidently had at first a mild case of catarrhal appendicitis, beginning on Tuesday morning, or, possibly, the night before. An operation on this day would *certainly* have saved his life. How many of my audience would have agreed to an operation at this time? On Wednesday the catarrhal process continued and possibly ulceration was going on, but evidently the peritoneum had not been involved. On this day (Wednesday) an operation could easily have relieved him. Thursday morning *perforation took place* and the intestinal contents poured into the peritoneal cavity. It was then he was seized with the *intense, agonizing pain* that never stopped till he died. Even on this day a bold operation could have saved his life by amputating the appendix, suturing up the intestinal opening, flushing out the peritoneal cavity and establishing drainage. On Friday an operation would have been worse than useless—on Saturday he was dying. Gentlemen, the watchword in these cases is—*operate at once!*

Now, as to this question as to *when* we should operate: It has already been clearly stated that the catarrhal cases, when *mild* and *rapidly subsiding*, do not require an operation; on the other hand, a case with *perforation with or without adhesion*, should certainly be operated on. I want to state, in justification of my urging an operation, that every case I have operated on has given at the operation *ample proof of the necessity of the operation*, and I have never operated but that I did not *regret that I had not operated sooner.* I want to say further, that all of my operative cases have recovered. Therefore I do not hesitate to say we ought always to operate as soon as we have any clear evidence of perforation, either present or threatened. After perforation occurs, delays are dangerous and

invite annoying and dangerous complications, even though there be limiting adhesions.

Case 5.. This case will show some of these *complications.* D. L., aged 46, while at work as a dye-house hand felt some cramps and pains in his bowels. He continued at work for two or three days, when he was forced to go to bed. Dr. Fox was called in and diagnosed *appendicitis.* Next day he introduced an aspirating needle and withdrew some pus. The man remained about the same for three or four days, when I was asked to see him with Dr. Fox. While considering an operation a peculiar form of what proved to be *iodism* asserted itself. The Doctor had given about 30 or 40 grs. potassii iodii the day before. The man's whole face and neck became during one night, not œdomatous exactly, but covered with *bladders of serum.* He looked like he would die. In the presence of this we postponed an operation. The iodism rapidly subsided, but the bowel trouble continued. About ten days later we operated. In the meantime, moreover, Dr. Fox had introduced the exploring needle ten or twelve times, sometimes getting pus, sometimes failing. The *head of the colon was found firmly adherent to the anterior abdominal wall*, and it was only with great care that I avoided cutting into the cæcum. There were such universal adhesions that the abscess cavity was reached only by dissecting around and beneath the colon, when a pint of fœtid pus was evacuated. The mass of adhesions was not broken down, as should have been done, nor was the appendix found. The abscess was drained by a glass tube in the upper corner of the wound, the rest of the incision being brought together by sutures. Drainage by a counter operation made through the lumbar region was also established.

This man progressed finely for several days, when he began to complain of *pain in making water.* This continued for two or three days, when *pus commencea to pass with his urine.* The pus had evidently *burrowed through into his bladder.* Pus continued to pass with his urine for a week, then subsided, only to occur again later.

Another complication in this case was what we took to be a *metastatic abscess.* Suddenly he began to complain of the *calf of his left leg*, which in a *few hours* swelled several inches larger than that of his right leg, and became so painful he could not bear it touched. All these things militated against tne patient and he came near losing his life, even after an operation. Certainly this man ought to hnve been operated on as soon as the diagnosis was made, even though he did not appear to be bad off, and thereby have saved him all the dangerous complications which arose during the progress of his case.

Recurrent Appendicitis.—Recurring attacks are believed to be a strong indication for operation, and I believe this to be good doctrine, but I have a unique case in this respect. A gentleman in my community has had at least twenty well-marked attacks as evidently appendicitis as any I ever operated on, and he said to me repeatedly: "Doctor, operate whenever you think it ought to be done." I did not operate, and for three years he has had no attack. His mother suffered in the same way repeatedly for years, with a final cessation of the

attacks. Mr. Osler says, however, that the tendency is to recur, and that 40 per cent. of the cases we see have had a previous attack.

DISCUSSION.

Dr. Booth alluded to the discussion on this subject before the Society at Asheville, and reported the case of a little girl with a well-marked case of appendicitis, who recovered under medicinal treatment. He thought doctors did not know enough about the appendix, and that it was a more useful organ than it was generally given credit for being. He spoke of its anatomical formation, being supplied with longitudinal and circular muscles, and very richly supplied with glands and sympathetic nerves, and held that its function was to supply mucus for the lubrication of the fæces in the colon. He had never seen a case of appendicitis recover without the patient having thereafter chronic constipation, and attributed the fact to the damaged condition of this "automatic oiler." He advocates locking up the bowels by the use of opium in cases of appendicitis, claiming it to act as a splint. Keep the bowel quiet with opium and let the foreign body become encysted, and the patient will generally get well.

Dr. H. W. Lewis congratulated the author upon his paper and his excellent results from the treatment of his cases. He alluded to the claim of pathologists that post-mortem examinations showed that about one-third of all adults had suffered at some time in their lives from inflammation of the appendix. He thought the number of cases recovering under medicinal treatment would make a better show than the 15 per cent. under operative treatment. He has had some experience with appendicitis, but has never operated and has no death to his credit. It is difficult to decide just where the physician's services should cease and the surgeon's begin. He does not believe in purging the patient. He thought purgatives added fuel to the flame. He would make him easy with opium, move his bowels systematically, apply ice-bags over the ileo-cæcal region, and watch closely for dangerous symptoms. He did not think the mere recurrence of the disease an indication for operation, but there should be dangerous symptoms; and if operation is to be done, do it during an attack and not in the intervals. This is a classical operation, and every physician should be qualified to perform it when the symptoms demand. It is the duty of the surgeon in every disease to give Nature a chance to relieve.

Dr. Whitehead called attention to the importance of inverting the end of the stump after amputation of the appendix, so as to bring the serous surfaces into contact.

Dr. Chambers had listened with much satisfaction to the discussion. He had heard the same discussion many times of late years. In discussions that last as long as one hour the subject of appendicitis is very apt to be brought up. He thought when the cases are first seen they are medical, but it is well to have some surgeon that can be called upon in case of necessity. His belief is that a very large number of cases are catarrhal, and if so, there is no more reason for surgical interference than in catarrhal inflammation in any part of the alimentary canal. The trouble is it may become surgical. There is no doubt a large num-

ber of cases recover without operation, and very many die after operation. The acute perforating cases without adhesions are almost sure to prove fatal. The most important thing to do is to make a thorough diagnosis, and then it will be plain enough to decide as to the treatment, whether it should be medical or surgical. To make his position in regard to the nature of the disease perfectly plain, if he were suffering from an attack he would want to be placed in the hands of a physician who knew something more than the knife. No set rules can be laid down in these cases, as no two of them are exactly alike. In regard to the operation, he prefers the median line as the site for the incision. He does not think the disease is more common in men than in women; in fact, the very conditions that are claimed as causes of the disease—constipation and sedentary habits—are more common in women. He thought the mistake is sometimes made in women of taking an attack of appendicitis for a pelvic inflammation. Sometimes it is almost impossible to make the differential diagnosis. As to the cause, he did not think one case in a hundred due to foreign bodies in the appendix, but to concretions of some sort accumulating in that organ.

There are three operations every physician should be qualified to perform, viz: tracheotomy, strangulated hernia and the operation for appendicitis.

Dr. Burke Haywood reported the case of a young lady with undoubted symptoms of appendicitis, on whom he would not operate in the absence of her parents, but who recovered under medical treatment, and has had no return of the trouble. He was ready to operate if the symptoms became urgent. She was put under the influence of morphia and ice-cold applications kept over the ileo-cæcal region.

Dr. Winslow thought the author had deduced facts to show that the disease is not always surgical. He has had considerable experience with the disease, but has operated on but few cases. He is not, as is well known, inclined to underestimate the value of a surgical procedure, but he does not think the mere presence of appendicitis is in itself an indication for operation. He cited the case of a man who drank a glass of water that had been standing in the pipes of a soda-fountain all night, this bringing on an attack of inflammation of the appendix. In acute perforative cases the operation must be done at once or the patient will surely die. There is no use in operating in a case of general suppurative peritonitis. Do not operate in catarrhal cases. He took exception to the author's course in breaking up the adhesions that separated the pus cavity from the general peritoneal cavity. The finger was then an infected finger, and was very apt to set up a general peritonitis.

THE REPORT ON GYNÆCOLOGY.

By R. H. Whitehead, M.D., Chapel Hill, N. C.

Read before the Medical Society of North Carolina, Raleigh, May 9th, 1893.

One who attempts to review the progress made by gynæcology during the past few years, is very soon impressed by the fact that modern gynæcology is essentially surgical. The great advance made in the diagnosis and treatment of the diseases peculiar to women is unquestionably due to surgical, as distinguished from purely medical, gynæcology.

The usually greater certainty and permanency of results, and the shorter time required for cure by surgical measures, the increase of operative skill born of experience, and the proper appreciation and application of the principles of asepsis and antisepsis have all coöperated in bringing about this result. Doubtless there are extremists in this line, men possessed by a sort of mania for operating, who gaze at the bottles of ovaries, tubes and uteri, which fill their shelves, with much the same feeling of satisfaction that animates the breast of the Indian when he looks at the scalps hanging from his belt.

But evils like this are attendant upon all great movements, and the fact remains that gynæcology is indebted to surgery for most of its progress, and it is to surgery that it must chiefly look for its improvement in the future—surgery supported by increase of knowledge and skill and actuated solely by a desire for the good of the patient.

The report, therefore, with the presentment of which you have honored me, is largely devoted to the progress of surgical gynæcology.

A detailed account of the various new operative procedures, the modifications of technique and similar matters, would doubtless be tedious and unprofitable, and I here therefore thought it best to confine my remarks to a few prominent diseases and the principles which underlie their treatment as practiced to-day.

Chronic Metritis and Endometritis.

In a simple metritis or endometritis of short duration, proper hygienic and medicinal measures, aided, perhaps, by intra-uterine medication, and the correction of any co-existing malposition or stenosis generally result in a cure. If, however, we are called upon to deal with a confirmed metritis of long standing, especially if it be of the hemorrhagic type, attempts to restore the mucous membrane to its normal condition will generally prove futile Here nothing short of destruction of the diseased membrane will suffice. For this purpose chemicals should not be used, as their action is so difficult to limit and so apt to result in cicatrices, stenosis and sterility. The same objections apply to electricity, but with much less force, and when one has the apparatus and the patient prefers it, it may be used.

By far the greater number of gynæcologists prefer the curette, for, while much abuse has been heaped upon the curette, the majority in favor of its use is overwhelming. It is needless to say that curettage must be done with as strict

attention to antiseptic details as a laparotomy, and all debris must be washed away, some operators using for this purpose a hollow curette, which allows of constant flushing of the uterus all during the operation. The after-treatment is directed to the maintenance of an aseptic condition of the uterus, which demands free drainage. To this end all malpositions must be corrected, and the os kept patulous. Many prefer iodoform gauze for this purpose, as it is antiseptic, furnishes good drainage and promotes absorption; so that an enlarged uterus is often rapidly reduced. It has the disadvantage, however, of being difficult of introduction.

A year or so ago ichthyol was introduced to us by certain German gynæcologists with great enthusiasm, who declared it to be the remedy *par excellence* for all inflammatory pelvic affections. A thorough trial of it, however, has proved it unworthy of such praise, although it is very efficacious in relieving pelvic pain and soreness.

Uterine Appendages.

It is in the treatment of the diseases of the uterine appendages that gynæcology has made its recent progress, not so much in the direction of great discoveries or brilliant life-saving operations, as in true surgical conservatism.

Not long ago many operators seemed almost daft on the subject of removing the appendages; the simple fact that a tube or ovary showed evidence of being diseased was considered ample justification for removing that organ immediately. "If thine eye offend thee, pluck it out and cast it from thee," was the dictum so literally and liberally applied to the appendages, whether those unhappy members offended by reason of something analogous to a panophthalmitist or to a catarrhal conjunctivitis. Nor was this destructive enthusiasm limited to the younger members of the profession, but heads grown gray in the service were foremost in the crusade. However, a strong reaction against this practice has taken place. The excitement incident to the novelty and to the frequently happy results of the operation has subsided, and surgeons, taking a sober second thought, are reviewing the results of a decade of wholesale spaying of women, with the result that the tide has set in the opposite direction. To-day the aim of the surgeon is to relieve the symptoms of the disease without destroying the sexual individuality of the patient. We should not look upon this episode in gynæcological history as indicative of weakness, for, on the contrary, the ability to cast off this abnormal growth is one of the strongest evidences of the vitality of the science.

Let us briefly investigate some of the paths along which this new-born conservatism has proceeded. In the first place, it has been pretty well settled that oöphorectomy for organic nervous disease, including epilepsy, is not justifiable. In fact, oöphorectomy for any sort of nervous disease is not usually done unless there are gross lesions in the ovaries themselves. In a recent paper Professor Landon C. Gray lays down the conclusion that there is no proof that genital irritation in either the male or the female can cause nervous or mental diseases, even in the predisposed. We may doubt, though, if this conclusion will be endorsed by American gynæcologists, who often see manifold neuroses appear after

a lacerated cervix or perineum to disappear when the scar tissue has been removed and the laceration repaired.

Several years ago Lawson Tait laid down the rule that, in operating for a unilateral pyosalpinx, the normal appendages on the opposite side should be removed at the same time, because his experience had taught him that if this were not done they would become similarly affected. Naturally the words of such an experienced and successful operator as Tait had great weight with his brethren, and for a time his law was faithfully obeyed. Recently, however, reports have been coming in from various sources with records of cases in which the operator had acted squarely against Tait's advice with the result that they cured their patients, and yet left them sexually competent. This was certainly a great gain, and it behooves all of us who are called upon to do this sort of work to study the steps by which it was attained.

We now know that the vast majority of cases of pyosalpinx are due to one of two causes—puerperal sepsis and ascending gonorrhœa. Twenty years ago Noeggerath first impressed upon the profession the important role which gonorrhœa in the male played in the causation of pelvic inflammation in the female, and after years of insistence had the satisfaction of seeing his views accepted. Until recently, however, the great mass of clinical evidence on this subject was almost entirely unsupported by experimental evidence, but the results of Wertheim's investigations and experiments would seem to have at last definitely settled this question. He readily succeeded in producing peritonitis in certain animals by projecting pure cultures of gonococci into the abdominal cavity, and, furthermore, he has produced abscesses by injecting the same cultures into connective tissue.

Again, he has discovered gonococci in pyosalpinges removed by laparotomy, and in some instances he found no bacteria except gonococci. All this is strongly confirmatory of the clinical evidence to the effect that gonorrhœa *does* ascend from the vagina into the uterus, thence into the tubes, the ovaries and the broad ligaments. So that in almost all cases of pyosalpinx there is a co-existing endometritis or metritis, septic or gonorrhœal in character. We thus see the reason for Tait's law, which undoubtedly held true in the great majority of cases, for the removal of a unilateral pyosalpinx did not eradicate the disease, inasmuch as there still remained in the uterus a focus from which the disease was liable to extend into the remaining tube. Obviously, then, it is of primary importance to remove this focus in the uterus, which being done, we shall be safe in leaving the healthy tube. This is accomplished by the curette, some employing it before the removal of the tube and others afterward, the latter being in the majority. While working in this line Prof. Polk observed that some of the cases whom he curetted, *before* doing an intended operation for pyosalpinx, were *cured* of the *latter*. He was thus led to extend his investigations, and now he does not hesitate to advise curetting as a means of curing pyosalpinx, claiming that, when it is properly done, some at least of the cases will be cured, and none injured. He supports his claim by quite an array of cases. At first blush his advice seems startling. It flatly contradicts all previous teaching and experi-

ence, which unite in condemning the use of a curette, and, indeed, almost any form of intra-uterine treatment, as dangerous in the presence of a peri uterine inflammation. However, Pryor claims to have curetted in the presence of an acute peritonitis, and with benefit. While we can understand how curetting might benefit a pyosalpinx by removing the focus of infection, it is exceedingly difficult, on anatomical grounds, to comprehend how it can secure patency of an occluded tube. The question must be regarded as *sub-judice*, and it is receiving ample investigation.

In addition to these conservative operations for pyosalpinx, some operators are endeavoring to avoid removing even a diseased tube by various procedures. Thus, some have stitched the suppurating tube to the incision in the abdominal wall, and, after thoroughly draining it, returned to its normal position. Others incise the tube *in situ* longitudinally, restore the patency of the tube by passing a probe through it into the uterus, and then wash through the tube with an antiseptic fluid, closing the incision into the tube with fine stitches. Others still have resected the diseased portion of the tube. This principle of resection has also been applied to diseases of the ovary, when sufficiently limited to admit of it. All of these operations have been attended by a very encouraging degree of success.

The methods of approaching a pelvic abscess have recently been modified. When the great importance and frequency of tubal and ovarian inflammation first broke upon us, all pelvic abscesses were considered intra-peritoneal, and it was held heresy to approach a pelvic abscess by any other avenue than an incision through the abdominal wall. We now know, however, that pelvic abscess may often be extra-peritoneal as a result of cellulitis or of the separation of a hæmatoma, and such may be attacked with advantage through the vagina. Even a pyosalpinx, if it be firmly fixed by adhesions, may be drained in the same way. We may incise with a bistoury at the point where fluctuation is detected, or, what is better, a trocar may be entered, along the track of which a uterine dilator is passed and the cavity dilated sufficiently to admit a drainage-tube. Or, in the case of abscess between the layers of the broad ligament, an incision may be made in the groin similar to the outer part of that for ligation of the external iliac artery. When the peritoneum is reached, it is pushed up with the fingers from over the iliac vessels, and thus access is obtained to the pus. A counter-opening can now be made in the vagina, through which a tube is carried into the cavity and brought out in the groin.

Fibro-Myoma of the Uterus.

The battle between the partisans of electricity and the advocates of the knife in the treatment of fibro-myomata is still waging, and occasionally a faint cry of "ergot" may be heard above the din. From the great mass of contradictory testimony before us, it is still very difficult to come to correct conclusions as to the utility of electricity. A short time ago Apostoli's method was rejected *in toto* by most surgeons, and we still hear many voices lifted in condemnation of it. However, the opposition to it is decidedly weaker, and electricity is gradu-

ally gaining for itself a position as an agent of recognized value in the treatment of fibroids. Thomas Keith, once the boldest and most successful operator and one of the most earnest advocates of hysterectomy, spent some weeks in Apostoli's clinic watching his work, with the result that he was completely converted, and now practices the electrical treatment almost exclusively. This position, taken by such a conscientious and experienced worker, is bound to have weight with the profession. From an analysis of 372 cases reported by Keith, Martin, Mackenrodt, Gautier, Massey, Homans and others, we find 2½ p. c. of complete cures, 64 p. c. of symptomatic cures, and only 1⅓ p. c. of deaths. Of course, we must remember that fibroids are prone to undergo cystic and malignant degeneration, and in such cases electricity is worse than useless. It gives its best results in small interstitial fibroids. From the evidence at hand to-day, we seem clearly justified in the conclusion that Apostoli's method, properly carried out, is a very valuable palliative treatment, and that it *sometimes* cures. The agitation of the electrical treatment has had the effect of stimulating the surgeons to efforts at lowering the mortality of hysterectomy, but, while their efforts have met with considerable success, the mortality is still high—about 20 p. c. The improvements have been chiefly in technique, especially as to the disposition of the pedicle. Most operators now practice an extra-peritoneal disposition of the stump by stitching flaps of peritoneum over it in the bottom of the wound, leaving the cervical canal open to act as a drain. Various modifications of this plan are employed, one of which was so successfully followed and admirably described to us at our last meeting. A new operation, by Dr. Emory Lanphear, strongly commends itself to us by the comparative ease and rapidity with which it may be performed, and the good drainage which it secures. He proposes it for malignant growths as well as fibroids. Having made his incision in the linea alba, he "draws the uterus with one tube and ovary to one-side and applies a clamp to the broad ligament; a strong ligature is passed half an inch away from this, including the blood-vessels, and tied; the intervening tissue is then cut with scissors The same procedure is then carried out on the opposite side. When this has been done the uterus, hitherto held down by the broad ligaments, can be lifted up into the wound and separation from the bladder and rectum easily accomplished. These incisions, before and behind, are prolonged into the vagina, when a clamp is introduced through the vagina as close as possible to the uterus, its points reaching the ligature already tied in the broad ligament. As soon as it is properly applied it is closed, and its fellow-clamp is inserted upon the other side, when the uterus is quickly cut away with curved scissors. The pelvis is irrigated, the abdominal wound closed and drainage made through the vagina as in cases of vaginal hysterectomy." The operation can be done in thirty minutes, and is said to be easier than vaginal hysterectomy with clamps. On account of this rapidity and the good drainage secured, Dr. Lanphear thinks that it is much preferable to any operation which leaves a stump or pedicle behind. He finds it unnecessary to unite the bladder to the rectum, as union takes place just as quickly without sutures as with them.

At a recent meeting of the New York Obstetrical Society, Polk advocated

hysterectomy for *small* fibroids, expressing the opinion that we are here facing the same problem that we once encountered in the treatment of ovarian cysts, and prophesied that, just as we now advise removal of the cysts while they are small, and therefore easy to remove, so we would in the future advise early hysterectomy for fibroids. His opinion met with the endorsement of Gill Wylie. It is difficult, however, to believe that the views of these gentlemen will be accepted by the profession at large, for it is in just these cases, as we have seen, that electricity gives its best results; and, furthermore, the results of Tait's operation here have been so good that most surgeons are entirely satisfied with it. So that it is extremely doubtful if an operation so easy of performance, so good in its results, and whose mortality is, or ought to be, practically *nil*, can ever be supplanted by one so formidable in character as hysterectomy.

Malignant Disease of the Uterus.

A disease of such frequent occurrence and desperate character as cancer of the uterus has very naturally always possessed great interest for the profession. When, under the influence of the great revival in surgery, it became possible to apply broad surgical principles to its treatment, the operation of hysterectomy received a warm welcome at the hands of gynæcologists and became the almost universal method of treatment. Accordingly, the most notable occurrence in the history of uterine carcinoma during the past year is the very powerful and bitter attack made upon hysterectomy by the President of the American Gynæcological Society at its last meeting. In this he endeavored to prove that hysterectomy was unjustifiable, and advocated his own method of operating with the galvano-cautery knife. He first showed that the primary mortality of vaginal hysterectomy is about 15 p. c., even under the most skillful operators, and then proceeded to completely demolish, to all intents and purposes, the statistics of various foreign operators, especially those of Kaltenbach and Leopold, of the Dresden Klinic, and expressed the belief that their tables had been compiled in such an ambiguous and misleading manner, that they were open to the charge of suppression of the truth or of actual misrepresentation of the facts. He held that hysterectomy is, in many respects, more dangerous than the disease for which it is undertaken, that the majority of all cases afflicted with uterine cancer would live longer without the operation than with it, and that therefore it is neither safe nor useful, but is positively unjustifiable. He gives the statistics of his own operation with the galvano-cautery, as follows: In forty cases of cancer, limited to the vaginal portion of the cervix, there was an average freedom from recurrence of over nine years for each, and in 40 cases in which the cancer involved the entire cervix or extended into the corpus, there was an average period of exemption of nearly six years. On the other hand, 235 cases treated by hysterectomy at the hands of various surgeons, gave only 27 p. c. who had an average freedom from recurrence of three years. He concludes, therefore, that the operation with the cautery is free from danger, a safe-guard against infection, and gives immensely better results, both immediate and remote, than hysterectomy, and that therefore it is a *moral obligation* upon all persons who operate

for cancer to employ the galvano-cautery. A good description of his method of operating may be found in the *Therapeutic Gazette* for February, 1893.

After seeing this aspect of the case, one feels disposed to say, with one of the members of that Society, that Byrne "is either a medical Columbus, teaching the existenec of, to others, an unrecognized truth of inestimable value, or a Don Quixote in pursuit of a chimera and recognized as such by all." If Byrne is asked why amputation of a *portion* of an organ with the cautery should give better results than the removal of the *whole* of that organ with the knife, he replies that the cautery is destructive to latent cancerous proliferation in tissues remote from the line of incision. If Byrne's statistics as to his own cases are true—and nobody doubts his integrity—why has his operation not been adopted by the profession? In the first place, Byrne's operation has been before us for nearly twenty years, and has been tested by others, but nobody has obtained anything like such good results as he. It seems to be exceedingly difficult in its application, for such men as Reeves, Jackson and Baker did not feel ashamed to openly confess to the Society their inability to apply it. Again, it is a well-established maxim in surgery to make our incisions as far away from the disease as possible; so that many operators would as soon think of removing a part of the breast for cancer as a part of the uterus. Furthermore, the advocates of hysterectomy do not accept Byrnes' handling of their statistics, but claim much better results than he is willing to accord them. And lastly, there have been reported from time to time numerous cases in which there were several distinct and apparently independent nests of cancerous disease in the same uterus; so that, in cases of cancer of the cervix, we cannot always feel certain that cancer does not also exist elsewhere in the uterus—in fact, it may be absolutely impossible to obtain this certainty.

The truth would seem to be, then, that the operative treatment of cancer of the womb cannot be considered as definitely settled, but the following may be said to be the principles which determine the action of average gynæcologists to-day—men neither ultra conservative, on the one hand, nor possessed by a *cacoëthes operandi* on the other, viz: if it seems fairly certain that the disease is limited to the *portio vaginalis* of the cervix, a high amputation either with knife, scissors or galvano-cautery is done; otherwise vaginal hysterectomy is performed.

Doubtless vaginal hysterectomy has been abused by being performed in badly selected cases, but when the profession comes to true conclusions as to its limitations, when we cease operating for cancers which have extended to the rectum, bladder, or even to the perimetric tissues, then, in all probability, the operation will be freely granted a high place in the list of remedial measures, as the means of saving many women from the ravages of a horrible, and otherwise fatal, disease.

DISCUSSION.

Dr. J. W. Long thought the paper too valuable not to be discussed. He congratulated the author on the great merit of the paper, and the Society on having had an opportunity of hearing it. He would confine his remarks to two or three points in the article. He thought the author very properly emphasized the fact

that no intra-uterine treatment, either chemical or instrumental, should be employed without careful antiseptic preparation. No man who is not qualified to do a laparotomy should undertake intra-uterine treatment. He thought many cases of peri-uterine inflammation had their origin in the unskillful employment of this treatment. He agreed with the author, that the only intra-uterine treatment that should be used was the curette, followed, perhaps, by iodoform gauze. He has been in the habit of treating the endometrium by dilating, curetting and packing with gauze. In regard to electricity, he believed that it had a well-defined field. He had contributed a paper on the subject of electricity to the Society a few years ago, but he had not as much faith in it now as he had at that time. He agreed with the author, that it was often an excellent palliative in fibroids. He recited the case of a woman who had periods of congestion, or, perhaps, inflammation of the pelvic contents, these periods ceasing under the use of electricity. Now, however, the tumor is larger than ever, there is great hæmorrhage and an operation will have to be done for her relief.

Dr. Hodges thought one remark in the paper was a little misleading. He referred to the statement that cases of pyosalpinx could be cured by the use of the curette and packing with iodoform gauze. He did not believe that, after the inflammatory process had gone on to the extent of pus-formation in the tubes, it could be cured by curetting and draining the uterus. He thought Dr. Polk must have reference, when he advocates this treatment, to those cases in which pyosalpinx is only threatening.

Dr. Whitehead closed the discussion by stating that he did not endorse the treatment advocated by Dr. Polk. He thought some got well under that treatment, because some cases get well of themselves. He reported the case of a woman who was suffering with a well-marked case of pyosalpinx, which recovered under unusual conditions. He was treating the case, and one night the patient's husband came home drunk, fought her, jumping upon her abdomen with his knees. When he made his next visit the tumor had disappeared, and the woman was much better. She stated the circumstances to him, and said that there was a great deal of "corruption" passed from the vagina. She went on to recovery.

REPORT ON OBSTETRICS.

By J. H. Marsh, M.D., Fayetteville, N. C.

Read before the North Carolina Medical Society, May, 1893.

"Obstetric science means the classified knowledge of the laws of human reproduction; obstetric art includes the rules drawn from those laws, or from intelligent experience, which are to be observed in individual cases of women in pregnancy, in labor, or in child-bed." – Parvin.

It is not the purpose of this paper to go into the history of either the science or art of obstetrics, but we wish to present some of the advances which have been made in this branch of medical science within the past few years.

Antiseptics.

Tarnier and Vignal have made at the Paris Lying-in Hospital a series of bacteriological and clinical experiments concerning antiseptic substances. Their conclusions are that the most powerful antiseptic, in small doses, and therefore rarely dangerous, is corrosive sublimate; next come copper sulpeate and carbolic acid, followed by mercuric biniodide, and finally permanganate of potassium. In order to obtain an almost perfect antiseptic condition, a uterine injection should be given immediately after parturition; vaginal injections are insufficient.

In the Section of Obstetrics and Gynæcology of the Tenth International Congress, Galabin, of London, reported that the mortality rate in English maernities, since the introduction of sublimate, had been reduced from 10 to 1,000 to 2 to 1,000; and deaths from septicæmia and pelvic inflammation to 1.5 per 1,000. The number of cases in which slight elevation of temperature occur after delivery have fallen one-half. The change in the percentage of septic forms of fever over those of earlier times have fallen from 40 to 2.5 p. c. in the London general maternity. The patients lie on horse-hair mattresses without beds, which are sterilized when they prove septic.

For vaginal injection a 1 to 2,000 sublimate solution should be used for the first three or four days; after that time a 1 to 4,000 solution is strong enough.

No examination should be made unless the hands are first washed in a 1 to 1,000 sublimate solution. This rule applies to all classes in hospital and private practice. For lubrication of the hands a sublimate glycerine solution of 1 to 1,000 should be used. Galabin thinks that in normal cases a single post-partum vaginal irrigation, with 1 to 2,000 sublimate solution is sufficient; but that, during the entire puerperium, a 2 to 2½ p. c. carbolic solution should be used.

Slawjonski, of St. Petersburg, reported from 52 Russian maternities for four years, from 1886 to 1889 inclusive, 76,646 deliveries; the number of puerperal diseases 6,363, or 8.57 p. c. The puerperal mortality was 290, or 0.38 p. c. These cases were taken from institutions connected with clinics of medical faculties, schools for mid-wives, etc. In Russian maternities, where antiseptics are universally employed, puerperal morbidity and mortality are constantly decreasing, and show a much smaller per cent. than the London institutions. The

mortality rate is much smaller in large institutions, where antiseptic precautions are observed, than in the small institutions, where these rules are not strictly complied with.

William T. Lusk states that hospitals which were formerly the seat of violent outbreaks of puerperal fever are now the safest places for women in confinement. At the Emergency Hospital in New York, which was formerly an old engine-house adapted to somewhat such purposes, there were, during five years, 837 confinements and 16 deaths, of which only one, and a possible second, concerning which the record was indefinite, were due to sepsis. The following precautions were taken to secure these results: Upon entering, the patient was given a full bath, a rectal injection was given, and the lower abdomen, inner surface of the thighs, anus and groins were scrubbed, first with soap and water, then with a corrosive sublimate solution of 1 to 1,000. A vaginal douche of soap and water was given, followed by a corrosive sublimate solution of 1 to 4,000.

In operative cases this was repeated before and after introduction of instruments or hands. Internes were not allowed to visit contagious cases or places while on duty. Both internes and nurses were required to observe these precautions strictly. Instruments were washed in a 2 p. c. carbolic solution, boiled and polished, after they had been used.

The placenta was expelled by Crede's method and ergot used. A douche of corrosive sublimate 1 to 5,000 was given, and in case of high forceps operation, or operation requiring manipulation, as version, the irrigation was carried into the uterine cavity, a vaginal douche being first employed. The external parts were then dusted with iodoform and coved with a piece of gauze, freshly wrung out of corrosive solution of 1 to 5,000, outside of which it was customary to place a pad of oakum, which was changed every six hours, and the external genitals at the same time carefully washed. No douches were given during childbed. This method had prevented puerperal sepsis, and also reduced disease in general, and the temperature seldom reached 100°. In puerperal fever, Lusk employs a bichloride solution, 1 to 3,000, injected slowly.

A physician should be careful not to attend cases of acute infectious diseases, such as erysipelas or diphtheria, at the same time he is caring for cases of obstetrics.

Anæsthetics.

Chloroform and ether are the anæsthetics usually employed in obstetrics. Playfair believes chloral is a remedy of almost incalculable value in cases of prolonged first stage, and one which practically supersedes all others in this condition.

Misrachi has used antipyrine in 21 cases and obtained good results in only six. He concludes from his experience that antipyrine is not an obstetrical anæsthetic. Other observers have reported good results from subcutaneous injections of antipyrine in 4-grain doses. Doleris has advised the use of cocaine as a local anæsthetic in obstetrics, but from results of investigations made by himself and other observers, the use of this remedy is very limited and not to be relied on, as the application must reach the nerve-endings of the supra- and infra-vaginal

portions of the cervix and the nerves of the vagina to be of benefit in relieving the pain.

J. F. Baldwin favors the most frequent use of chloroform in obstetrics. He is accustomed to use morphine during the first stage, chloroform during the second, and nothing during the third. He states from his experience that chloroform not only relieves pain, but shortens labor usually, prevents shock, prevents nervous and physical exhaustion, reduces the liability to rupture of the cervix and perineum, does not conduce, in any material degree, to post-partum hemorrhage, does not affect the fœtus, and is absolutely safe. when properly administered. W. R. Cushing says explanations of its safety have been made time and again. He prefers the explanations described by a recent writer as follows: "At the very time you are administering the anæsthetic most freely, that is, during the increment of the pain, at that very moment the contraction of the uterus is driving blood back upon the brain—a forcing-pump refilling the cranium, should your chloroform be removing the blood too freely from it. That is a very reasonable view to take of the matter, but labor pains differ from all others, in that they culminate in a forced expiration. This fact alone would prevent an overdose in the hands of a carful attendant. As usually administered, it is withheld during the interval until the indications of an approaching pain are apparent.

Placenta Prævia.

Two cases have been reported by Naylor, of Burmah, India. He states that in one, a primipara, the cause was due to the fact that the patient was compelled, from the beginning of pregnancy, to ascend a steep bank to reach the town of her residence; thereby the ovum may have slipped down to the lower segment and have settled itself around the internal os of a cervix uteri.

Kolff and Treub record the results of this mal-presentation, as observed by them at Leyden. Between 1856 and 1879, 26 cases of placenta prævia were noted by Kolff, with a mortality of 42 p. c. On the other hand, between 1887 and 1889, Treub has observed 13 cases. In his cases he performed combined version, losing but one patient. And this case died of pyæmic phlebitis, set up by a dirty sponge, which the midwife had introduced to check hemorrhage before version was performed. His mortality did not amount to 8 p. c. Of the children 8, or 61 p. c, died; but in 4 the heart-sound could not be heard before version was performed; thus the precise mortality was 30 p. c. The great principle of practice at Leyden is to separate version from extraction. Version is undertaken in order to save the mother. It is only in cases of subsequent hemorrhage that extraction by the feet is undertaken.

Kolff praises this practice, as it renders the patient less liable to hemorrhage, saves her from prolonged plugging, and allows the latter part of labor to continue slowly, and yet without danger. The risk of post-partum hemorrhage is greatly lessened and the infantile mortality, according to the above statistics, is not very high.

Newman reported 5 cases to the Gynæcological Society of Chicago. One of his cases died after the administration of chloroform. He thinks chloroform is

a dangerous agent in cases where there have been much hemorrhage, and the patient is ex-sanguinated and anæmic. He urges the use of nitrous oxide gas in such cases.

At a meeting of the North of Ireland branch of the British Medical Association Dempsey reported a case of placenta prævia which he had treated successfully by the introduction of a large piece of solid alum up against the os uteri, and kept it there by means of a vaginal tampon. He claimed advantages for it:

1. It prevented constriction of the uterine sinuses, by hardening and constricting the uterine fibers in the lower segment of the uterus.

2. It appears to assist in causing thrombosis of the sinuses.

3. It produces a tenacious mortal like coagulum of the effused blood, which acts as an additional tampon in the vagina.

4. It does not prevent dilatation.

5. It appears to obviate the necessity of the usual operative measures required in placenta prævia until the os is sufficiently dilated to permit of them with safety.

The use of alum was recommended more than fifteen years ago, by R. Beverly Cole, of San Francisco, Cal., in this and other hemorrhagic disorders of the organs of reproduction.

Cases of placenta prævia have been reported by Alderson. He has found both ergot and bromide of potassium of service in arresting and preventing bleeding, in cases of post-partum hemorrhages, after the flooding had been stopped by the separation or removal of as much of the placenta as could be reached by digital exploration, in the manner recommended by Barnes. This practice had invariably stopped the hemorrhage. Time was gained, and either external version or turning could be employed, while the partial separation of the placenta did not necessarily cause the death of the child.

Dr. A. B. Clark reported 6 cases of placenta prævia. In his cases he maintained connection of the placenta as far as possible to the cervical tissue until after the birth of the child. By this method, in his 6 cases of central implantation of the placenta prævia, not a single death occurred to the mother, and only one death among the children, and that was due to some other cause than placenta prævia.

Symphysiotomy.

The operation of symphysiotomy, which was introduced more than a century ago by Sigault, and received with open arms by the profession for a while, and, after a short reign, fell into such disrepute that his very name was execrated by Baudelaucque. The operation, in all probability, did not hold its own during the 18th century on account of the bad pelvimitry, the imperfect knowledge of pelvic deformities and sepsis, which characterized all surgery during that period. From 1797 to 1804 there were 40 operations—15 women and 28 children died.

To Dr. R. P. Harris, in a paper read before the American Gynæcological Society, and published in the *American Journal of Obstetrics* October, 1892, we are indebted for much of the modern history of the operation. Since that time

the attention of American obstetricians seems to have been attracted to the revival of the operation, which had been spreading in England since 1865. Dr. Harris reports 44 operations from January, 1886, to July, 1892, by various operators, with one maternal death, three still-born children and two children respectively at 12 and 72 hours.

Dr. R. P. Harris reports 26 operations during the year 1892—6 were performed by Italian operators, 11 by French, 4 by German, 1 by Austrian and 4 by American operators. In this list there were no deaths to the mother. In the American cases of Dr. Jewett, of Brooklyn, and Dr. Michael, of Baltimore, the children died, but the deaths were probably due to the operation having been delayed too long, as stated by the operators.

This operation, under antiseptic surgery, is rapidly taking the place of Cæsarean section in cases of deformity of the pelvis and mal-presentations. It is one which should be carefully studied by every obstetrician; as compared with Cæsarean section or craniotomy, it is much simpler and has a mortality rate which we may all be proud of, when performed under strict antiseptic precautions.

CEREBRO-SPINAL MENINGITIS.

By Thomas Stamps, M.D., Lumber Bridge, N. C.

Read before the North Carolina Medical Society, Raleigh, May 9th, 1893.

Cerebro-spinal meningitis as an epidemic disease was first described by French writers in the early part of the present century. The literature of the subject is remarkably meagre. *Spotted malignant purpuric* and *congestive fever* are some of the names applied at different times to this malady.

Its first appearance in this country was during the British war of 1811, when it prevailed extensively among the New England troops and occasioned great mortality. In 1863 it appeared in Philadelphia, and several years later in New York, whence it has radiated to very remote points in different parts of the country. Nearly all the domestic vertebrates and many wild species have been victims of this disease.

Many of you will recall the epizootic which played such havoc among the horses of New York city in 1871, and which was demonstrated to be nothing less than cerebro-spinal fever.

Dr. Galloh, in his report of an epidemic in Vermont, mentions that large numbers of foxes were destroyed by it. But notwithstanding its prevalence among the lower animals, in not a single instance has it been proven that the disease was communicated from them to men.

Its etiology has never been clearly defined, though, from the analogy of other constitutional disorders, it is not unlikely that clinical and microscopical research will ere long be able to demonstrate its specific origin. If these are, as Key and Retzèns maintain, a direct continuity, through lymph channels, between the nasal mucous membrane and the sub-arachnoid space at the base of the brain, it would not be difficult to account for the entrance of micro-organisms from the air directly into the tissues chiefly affected. There is reason to believe that the *micrococcus lanceolatus* (Bardoni Uffredduzzi), if not the prime cause, enters as an etiological factor. This organism is morphologically identical with the *dipplococcus pneumoniæ* or *pneumococcus*. Now, croupous pneumonia and the disease we are considering have many points in common, and it is not unwarrantable to suppose that the same micro-organism may determine one or the other of these maladies in accordance with certain elective affinities by which the pulmonary parenchyma or connective tissue cells of the pia mater form a suitable nidus for its proliferation. A similar relation, we know, subsists between scarlatinal virus and the poison of puerperal septicæmia. Whatever be its causation, specific or otherwise, the consensus of nearly all competent observers is that the disease is not contagious. Multiple cases in a single family are rare unless some decidedly unsanitary condition exists, which in this, as well as all other like disorders, doubtless acts as a predisposing cause. No age or sex can claim exemption, though statistics show that three-fourths of all reported cases occur under 15 years of age, males slightly predominating.

Dr. S. B. Hunt, who analyzed over 100 epidemics in Europe, says its favorite

"habitat is in prisons and barracks." It appears oftener in winter than in summer, though where it has become endemic, as in New York, the seasons seem to exert but little influence.

The characteristic anatomical lesion consist in an inflammatory exudate into the meshes of the pia mater, investing the brain and the cord. This exudation, at first sero-fibrinous, becomes later sero-purulent or purulent, if the case be severe and protracted. The brain substance becomes more or less softened, especially over those points where the meningitis is most intense. The ventricles and central canal of the cord are distended with serum. The meningeal and cerebral vessels are congested and punctate extravasations occur at various points, particularly beneath the dura at the base of the brain. The lungs are often the seat of atelectasis, and there is more or less parenchymatous degeneration of the heart and chylopoietic viscera, such as is common in all infectious diseases. The petechial patches so frequently discernible upon the integument, arising from altered condition of the blood and vascular walls, gave occasion for the designation *spotted fever*, already mentioned as one of the synonyms of this disease.

The diagnosis, always interesting, is especially so in this instance, since it is contended by some that it never occurs sporadically. Loomis, to avoid this difficulty, maintains that these are essentially two different varieties—the sporadic and epidemic. Niemeyer, than whom there is scarce any higher authority, places it among the purely local affections. The trend of opinion, however, is in the opposite direction in this, as well as other like disorders, pneumonia, for instance, whose place nosologically has been but recently established among the constitutional diseases. To differentiate this from simple inflammation of the meninges, is generally not difficult, when it is remembered that acute simple spinal meningitis is practically never a primary disease, but is almost always secondary to traumatism, tubercles or caries of the vertebræ.

In acute cerebral meningitis, the onset is generally mild and progressive, whereas in cerebro-spinal fever it is *abrupt*, beginning, as a rule, with a severe chill in the night, followed *rapidly* by pronounced symptoms referable to the brain and cord, such as vomiting, retraction of head, arching of spine, muscular rigidity and hyperæsthesia. It has been confounded with scarlatina, pneumonia, typhoid, typhus and pernicious malarial fever, but physical examination and the previous history and environment of the patient will ordinarily suffice to distinguish it. The prognosis is always grave and the sequelæ often more to be dreaded than even a fatal issue. Idiocy, blindness, deaf-mutism and various paralyses are not infrequent results.

The indications for treatment are four-fold: (*a*) To relieve pain. (*b*) To lessen meningeal hyperæmia and reflex irritation. (*c*) To promote absorption of inflammatory products. (*d*) To sustain the vital forces. The first indication should be met by full doses of opium or its alkaloids, notwithstanding certain theoretical opinions to the contrary. None of the much vaunted patented synthetical compounds can be relied on as a substitute—a fact showing the correspondence between the best interests of our patients and the ethics of our profession.

In the case cited below, æt 13, morphine, gr. ⅛, hypodermically, or its equivalent *per orem* was required at short intervals. To lessen the hyperæmia of the meninges, cold applications, with the bromides, would seem the ideal remedy, but they are not always well borne when it becomes necessary to employ heat and counter-irritation.

Potassium iodide best meets the third indication. Blisters may be of service, but my experience is that they substitute one pain for another, and very materially interfere with the comfort of the patient and the preservation of his energies. This last requires the ingestion or injection of nutritious food at regular intervals, with stimulants in the later stages, unremitting attention of the nurse and darkened, quiet and well-ventilated apartments.

The following somewhat typical case is cited to further illustrate the symptomatology and treatment:

In the forenoon of February 12, 1892, I was called to a neighboring village to see Caddie E., æt 13, whose previous personal and family history was good. I was informed that she had retired the night before in her usual excellent health, and was seized about midnight with a severe chill, lasting probably an hour, followed by intense pain in head, back and lower extremities; had vomited repeatedly, and bowels had moved three times during the night. It may here be remarked that the locality was singularly exempt from malaria. No case had ever occurred in the family, of which this child was the youngest member. La grippe, however, was prevailing to some extent in the neighborhood, and the symptoms on this morning strongly simulated one of the nervous types of that Protean malady, if, indeed, it did not really exist as a complicating factor. Her face was flushed, skin hot and dry, axillary temperature 104°, respiration 26, pulmonary resonance normal, pupils slightly dilated, but responsive, conjunctivæ injected, abdomen flat. Vomits at variable intervals, ejecta consisting of mucus and bile; complains of severe epigastric pain in addition to that stated which succeeded the chill of last night. She is restless and irritable. A hypodermic of morphia was administered, sinapism ordered for the epigastrium and cold applications to head and nucha. The following prescriptions were left:

℞.—Phenacetine,
Quin. sulph.....aa gr. xv.
M. Div. in cap. No. vi. Sig. One every four hours.

℞.—Hyd. chl. mit.....gr. ij.
Pul. ipecac, co ....——.....gr. x.
Bis., sub-nit.....ʒij.
M. Ft. chart., No. 10. S. One every two hours.

February 13th, 9 a. m.—Patient very restless; complains of lancinating pain in top of head and down spine, with less suffering in extremities. There is stiffness of posterior cervical muscles; unable to flex head on sternum. Vomiting continues at longer intervals, with but little apparent nausea; wants to be continually getting out of bed; diffuse inflammation of conjunctivæ and photophobia; right pupil larger than left; urine contains excess of urates and phos-

phates, is lessened in quantity, otherwise normal; pressure over ligamentum nucha causes great suffering; morphine sufficient for relief of pain, a brisk saline purge, hot mustard pediluvia, together with the following, were ordered:

℞.—Pot., brom. ..... ʒ iij.
Chlor., hydrat. ..... ʒ ss.
F. ext. ergot ..... ℥ ʒ iij.
Aquæ, qs. ad ..... f ℥ ij.
M. Sig. Dessertspoonful every three hours.

The room was well ventilated, darkened and absolute quietude enjoined.

February 14, 10 a. m.—Head retracted, with forward arching of spine; rigidity of flexor muscles of extremities; convergent strabismus, with dilatation of pupils.

4 p. m.—Opisthotonos complete; cold applications being badly borne, are withdrawn; sinapisms ordered over nucha and spine; bromide mixture, in increased doses, continued; temperature excursions have fluctuated during the day between 99° and 103.°

February 15th.—Patient somnolent, but can be aroused; vomiting less frequent, consequently food consisting chiefly of milk and farinaceous broths were better retained; moderate cutaneous hyperæsthesia; cephalalgia and rachialgia less severe; temperature 100°; pulse 110, very compressible; appears more comfortable.

February 16.—The period of apparent amelioration yesterday was followed by recrudescence during the night; all prominent symptoms intensified; herpetic vesicles appear on lower lips and about angles of the mouth. An examination of urine discovered a trace of albumen.

February 17.—Toxæmia profound; morning temperature 104°, evening 101°; herpetic eruption has spread over chin and lower half of cheeks; papelliform elevations of cuticle over greater part of body; strabismus exaggerated; dysphagia, probably from paresis of muscles of deglutition; she lies quiet and apathetic for a while, then suddenly tosses from one side of the bed to the other. Full doses of potassium iodide, interlaced with the bromides and ergot, were administered every six hours, and some benefit seemed to be derived from ironing the back over flannel saturated with oil turpentine, as originally suggested by Dr. W. H. Sutton; quinine was given for its tonic effects. The fastigium was reached on this day. From that time till March 2d, when convalescence was fairly established, there was nothing worthy of recital, save the very variable temperature chart, which is characteristic of this disease. My friend Dr. J. L. McMillan was invited to see the case, and we were in entire accord as to the true nature of the malady and the treatment, as outlined above. The recovery was complete, except that the axis of the right eye never regained its normal position—the squint remaining permanent. No other case occurred in the neighborhood.

ANNUAL DISCUSSION: RHEUMATISM.

By D. T. Tayloe, M.D., Washington, N. C.

Read before the North Carolina Medical Society, May, 1893.

My first and pleasing duty this evening is to acknowledge the honor which has been conferred upon me. To be selected leader in debate by this Society is one I most heartily appreciate. I have chosen for my subject *Rheumatism.*

There is perhaps in the catalogue of human ills no disease more interesting to the practitioner than rheumatism. The immense suffering inflicted on its unfortunate victims, the weary hours of torture during its cruel reign and the lasting decrepitude which is often left as a mark of its ravage, has long rendered this disease a theme of discussion by our profession. It is described as occurring in three forms, viz: the acute, the sub-acute and the chronic. The three forms have originally the same causation.

Acute rheumatism or rheumatic fever commences with a feeling of cold succeeded by unusual heat. These symptoms are followed by pains in different parts of the body, especially the limbs. The pains increase in severity and are soon localized in the joints, which become swollen and sensitive. The inflamed joints, which give rise to the suffering of acute rheumatism, forms the most prominent characteristic feature of the disease. It is confined generally to the large joints. The inflammation shows a marked tendency to shift from joint to joint; febrile symptoms are marked; the pulse and respiration are increased in frequency; the temperature varies from 100° to 104° F., but has no distinctive range. The general course of fever is remittent, rather than continued. The duration and severity of the fever correspond very much to the duration and severity of the local inflammatory attacks. The patient is never free from pain or fever.

The skin is very active in acute rheumatism, usually bathed in a profuse perspiration, which is a source of much general discomfort, having a sour, disagreeable odor and an acid reaction. The naturally alkaline saliva is also acid. The urine is hyper-acid, scanty, high-colored, and on standing throws down a copious deposit of urates. Its specific gravity is high, and it contains an increased quantity of urea. The bowels are constipated, the tongue is coated with a thick white fur, the appetite is gone, there is considerable thirst, and the patient's condition, when the disease is fully developed, is pitiable in the extreme. He lies on his back, unable to move, the least effort to do so causing intense pain. The perspiration trickles down his face, but he cannot wipe it away. Even the weight of the bed-clothes cannot be borne. He dreads the approach of his friends, screams with agony at the least touch. His expression is that of intense suffering and abject helplessness. He gets no rest. His one desire is to have some relief from pain. The disease varies in duration from a few days to two or three weeks. During its course there is a tendency to inflammation of the structures of the heart. This constitutes the chief danger and anxiety of the illness, for it is only in exceptional cases that the heart, when once affected, is not per-

manently damaged, while in not a few the cardiac inflammation proves directly fatal in its acute stage. The great majority of cases of acute rheumatism recover. The prognosis therefore is favorable. In some cases, fortunately very few, the temperature runs up to 106° and 108°. With this high temperature there are associated alarming nervous symptoms. This constitutes that form of the disease to which, from its fatality, the term "malignant" has been applied.

Sub-acute rheumatism is a milder form of the same disease and presents the same symptoms and features in a minor degree. Chronic rheumatism is a name which is loosely applied to many ailments not really of rheumatic origin. Almost any obscure and obstinate pain, which is not traceable to some other agency, is apt to be attributed to chronic rheumatism. Chronic rheumatism, properly so-called, is a milder form of the sub-acute variety, in which there is not sufficient local inflammation to lay the patient up or to raise the temperature. The nature of the changes which take place as the result of the action of the rheumatic poison has been a matter of some difference of opinion. The point on which opinions differ is as to the nature of the inflammation. It has been regarded by some as differing from ordinary inflammation, not essentially, but in the peculiarity of its seat. By others it is looked upon as specific in nature, resulting from the action on the fibrous and serous tissues, of a special poison which does not operate in the production of other than rheumatic inflammation. That exposure to cold and damp suffices to produce acute rheumatism, is an old view which finds its chief support in the fact that the disease often occurs after such exposure. But so frequent is such exposure in this country that it would be difficult to point out any disease which might not be attributed to this agency, if we are not careful to distinguish between the post and propter hoc. It is common to find patients attributing an attack of typhoid fever to that cause, but no medical man would endorse such a view. If acute rheumatism owned such a causation it would be most common in the coldest climates and during the coldest weather. But it is a disease of temperate climates, not of the Arctic regions, and is never more common in winter than in other seasons. It ought, too, if caused by cold, to be most common in children and older people who have little power of resisting cold; but the reverse is the fact, for the disease is rare before 15 or after 50, and is most common at the age at which the power of resisting cold is greatest. If caused by exposure to cold, the joints which suffer most from such exposure, those of the fingers and toes, should also suffer most from rheumatism. The fact is, that they are very rarely involved in the disease. Then, again, if this be the cause of the disease, how is it that pericarditis so frequently occurs and pleuritis and peritonitis so rarely?

The pleura and peritoneum are just as much exposed to cold as the pericardium, probably more so. Other peculiarities of the disease there are, which it is simply impossible to explain on this view of its etiology. The mere enumeration of these will suffice to show: 1st. That no external agency and no amount of exposure is adequate to their explanation; and 2d. That rheumatic inflammation is possessed of special features and peculiarities, which can be accounted for only by bearing in mind or keeping in view that it is specific in nature and is due

to the action of special poison circulating in the blood, and therefore essentially differing from ordinary inflammation. The special characteristics of acute rheumatic inflammation are :

1. A tendency to its occurrence is hereditary. 2. It is specially liable to occur at a particular age. 3. It is apt to attack the same individual again and again. 4. It does not confine itself to one joint, but affects several simultaneously or in succession 5. It attacks also the membranes of the heart. 6. It very rarely terminates in suppuration 7. It is not much benefited by measures calculated to relieve simple local inflammatory action, but is speedily subdued by proper constitutional treatment.

There is no possibility of explaining these peculiarities by any view which does not recognize the existence and operation of a poison circulating in the blood. The hereditary transmission of the rheumatic tendency necessarily involves the idea of a constitutional, not a local, malady. It means that a certain diathesis or particular state of the body, predisposing to rheumatism, is handed down from father to son. But such transmission can take place only in connection with constitutional ailment.

The tendency to attack those of a particular age is noted specially in connection with diseases owning a constitutional origin. Repeated attacks in the same individual points to a constitutional predisposition, and the fact that many joints suffer simultaneously or in succession points to a generally operating, internal and constitutional cause. The tendency to heart-affection can be explained only from the fact that the cause of the inflammation exists in the blood. Finally, the success of constitutional and the futility of local treatment, complete the proof that in rheumatism we have to deal with an ailment which owns an internal and constitutional, and not an external and local cause. The general conclusion to which we are led is, that this inflammation is specific in nature and the result of a specific poison circulating in the blood.

The next question which presents itself for consideration is the very important one of the *nature* of this poison. Acute rheumatism is accompanied by excess of lactic acid in the system, and such excess is noted only in connection with it. That, no doubt, is true, but it is no proof that the acid causes the rheumatism. It is quite possible that the morbid action which constitutes the rheumatism may give rise to an excess of the acid, and that this excess and the rheumatic symptoms may both result from the same cause.

In specific fevers there is an increased formation and elimination of urea—another product of tissue metamorphosis; but we do not regard the excess of urea as the cause of the disease. It is merely one of its phenomena. It may, and at times does, give rise to special symptoms, but these form no essential part of the malady. May it not be with lactic acid in rheumatic fever, as it is with urea in the specific fevers? The presence in excess of this product of tissue metamorphosis is simply one of the phenomena of the disease, one of the results of a morbid process set agoing by another and totally different agency.

The excess of lactic acid as a sequence may, and does, give rise to some of the

phenomena of acute rheumatism. It may do this without being the cause of the disease. There are many reasons for not accepting the view that the acid causes the rheumatism. If it were so the rheumatic symptoms should persist so long as the acid existed in excess in the system, and should decline when it ceased to do so, and not till then. Remedies, too, which neutralized the acid, should also cure the rheumatism, while those which did not do so should fail to have curative effect. I have given alkalies to such an extent as to saturate the system and render the urine alkaline, without doing good to rheumatism. If the acid causes the rheumatism, this should not be. It indicates that the acid in the system is neither neutralized nor destroyed by the remedy which neutralizes the action of the rheumatic poison and puts an end to the disease.

The view is forced upon us that lactic acid is not the cause of acute rheumatism, but merely one of the results of a morbid process set agoing by some other agency. I will not in this connection attempt to discuss the innumerable theories advanced by different writers on this subject, but will ask your indulgence while I merely outline reasons for believing the miasmatic theory of rheumatism to be the correct one.

The poison which gives rise to malarial fever are distinct and separate agencies, but the analogies noted in the natural history and course of the ailments which they respectively produce are sufficiently close to warrant us in regarding them as being allied, though specifically distinct. Malarial diseases are apt to occur in low-lying damp localities in certain climates and at certain seasons of the year. Some people are more liable to be attacked than others. They have no definite period of duration. They are not communicable from the sick to the healthy. We cannot fail to see that these are quite the attributes of acute rheumatism. A still further analogy may be traced in their symptoms:

1. Malarial fever is irregular in type and characterized by variations in its course. So is rheumatic fever. 2. One attack of malarial fever is said to render the system more liable to its recurrence. The same has been said of rheumatic fever. 3. Malarial fevers often leave an impress on the system which renders the sufferer liable to disturbance and recurrence of some of their symptoms from slight causes. Rheumatic fever often has the same effect. 4. Unless arrested by treatment, malarial fevers may have a protracted and uncertain course. So may rheumatic fevers. 5. The course of malarial fever is speedily arrested by large doses of the cinchona compounds. The course of rheumatic fever is as speedily checked by large doses of the salicyl compounds, as I will endeavor to show.

It is evident that the rheumatic poison, both in its history and in its effect on the system, bears a closer analogy to the poison of malarial fevers than any other morbific agency. The gradual onset of rheumatic inflammation, its shifting character, its uncertain course, its occasional prolonged duration and its gradual decline, can be explained only by supposing that the poison is reproduced in the system during the course of the disease, and that a fresh supply of poison is thus being constantly brought into play. In view of this the occurrence of the local inflammatory lesion is readily explained, for the poison in this disease

finds its nidus in the fibrous tissues of the motor apparatus of the body, and in this tissue something exists which is essential to their fecundation, and without which they cannot be reproduced. If the whole of the poison necessary to the production of all the phenomena of the malarial fevers existed in the system at the commencement of the illness, they would lose their intermittent and remittent character, the full effect of the poison would be produced at once, and their phenomena would be concentrated into one violent attack of fever which could scarcely be recovered from, so it would be with rheumatic fever, the symptoms would be developed, not gradually, as is the case, but all at once. The joints, instead of being affected as they are, would all suffer at the same time, and the disease would lose some of its characteristic features.

Rheumatic poison acts chiefly on those fibrous structures whose function is to resist strain, and that the greater the strain the greater the liability to the action of that poison. In this we find the explanation of the tendency of that poison to affect the fibrous structures of the heart. In all forms of rheumatism the heart is apt to suffer. Heart-affection very seriously complicates the rheumatic attack during its course. It is not in any way or in any case to be regarded as an accidental complication, but always as a part of the disease, and as being induced in exactly the same way as the joint inflammation.

Having in a brief way considered some of the most prominent features of rheumatism, I will now consider the *treatment.*

There is probably no disease in which so many different modes of treatment have been resorted to, but until recently medical treatment has failed to shorten the duration of the malady. I will not tax your patience with a list of all the different drugs which have been offered for the relief of rheumatism. I will simply give you the mode of treatment that has proved most efficacious.

Dr. Maclagon was the first to point out the analogies which are believed to exist between the poisons of intermittent and rheumatic fever, also the marked analogy between the cinchona compounds and the salicyl compounds. The forms of rheumatism with which we have to deal are the acute, sub-acute and chronic. It is in the acute and sub-acute forms that the salicyl treatment is most applicable. To get its most beneficial effects the remedy must be given in full and frequently repeated doses. The patient, of course, is confined to bed, the bowels are relieved by a dose of calomel, if necessary, and the diet light and simple, consisting mainly of milk. The salicyl treatment should be begun as soon as possible, for in the interest of the heart every hour is important. I give 15 to 20 grains of the salicylate of soda every hour till there is decided evidence of its action. It will generally be found before 300 grains are consumed, often before half that quantity has been taken, that there is a marked improvement. Relief from pain is the first indication of this. With the continuance of the remedy improvement progresses, and often within twenty-four, generally within forty-eight hours from the commencement of this treatment, the pain is gone and the temperature is at or near the normal standard. As the symptoms decline the dose may be diminished, but it is well not to do this too quickly or too early, for if the remedy be omitted too soon, or given in inadequate doses, the symptoms

are apt to recur. The object in view is to keep the system persistently under the influence of the drug. The salicyl compounds are so rapidly eliminated that their beneficial effects can be gained only by giving them frequently, as well as in full dose.

One can never tell the time at which their curative effects have been produced completely. For this reason the treatment should be gone on with for some time after convalescence seems to be established. You should make your patient understand that there is a tendency to a recurrence of the symptoms, and that the medicine must be taken for some time after all pain has ceased. The patient should be in bed for a week. No matter how speedily the pain is relieved and the fever abolished, the affected fibrous textures cannot at once resume their normal condition, and until they have had time to do so they should have no work to perform. It is of the utmost importance that a rheumatic attack should be perfectly recovered from, or the chances are that there will be a return. Any injury done during the first attack is almost sure to be increased by subsequent ones. Treated thus, the course of uncomplicated acute rheumatism is arrested, the pain is abolished, and permanent convalescence begins, frequently within twenty-four, and generally within forty-eight hours of the time treatment commences.

Salol, being one of the later salicin remedies, taken in doses of 5 to 10 grains every two hours, is said to relieve speedily the fever and pain in the early stages of acute rheumatism. In my practice its use has never proved near so efficacious as salicylate of soda or salicin. Salicylate of soda sometimes produces nausea, vomiting and burning in the stomach, and in certain cases deafness and buzzing in the ears. In such cases I often substitute salicin in 15-grain doses every two hours This has little, if any, of the evil properties of salicylate of soda, yet it seems to keep up the good effect of that drug. In some cases I have found it necessary to give opium for relief of pain and to produce sleep, though rarely ever when treatment was sought for early. Anodyne liniments applied to the inflamed joints add temporary relief and comfort to the patient. In giving salicylate of soda and salicin in acute rheumatism, each requires to be given in large and frequently repeated doses. The explanation is obvious.

The rheumatic poison is a minute organism which is propagated in, and acts on, the fibrous tissues of the motor apparatus of the body, and is, of course, carried about in the blood. These remedies destroy this poison, but for its complete destruction a certain quantity is necessary. The sooner this quantity is introduced into the blood, and so brought to bear on the poison, the more rapid will be the cure of the rheumatism. In a first or second attack the salicylate of soda and salicin effect a rapid cure. But when the patient has suffered from repeated attacks, and when, as a consequence of these, more or less change has been induced in the fibrous textures of the joints, there can be no doubt that alkalies tend to shorten the duration of the disease by neutralizing the lactic acid, aiding its elimination by other organs than the skin.

They do not cure the rheumatism properly so called, but they hasten the elimination of morbid products formed during its course. Chronic thickening of the

fibrous textures and stiffness in the joints are the result of former attacks of of rheumatism, and are apt to be mistaken for chronic rheumatism, occurring as it does, in those who have suffered from repeated attacks of acute or sub-acute rheumatism, and presenting many of the symptoms. It is of great importance that the two ailments should not be confounded, for their prognosis and treatment are essentially different. It may reasonably be hoped that this condition will year by year become less common, as the treatment is so successful in shortening the duration of acute and sub acute rheumatism.

Counter irritants, such as the tincture of iodine, painted over the joints, and iodide of potash, taken internally, afford some help in reducing the chronic congestion of the parts. Chronic rheumatism is a very different condition. It is due to the presence and direct action of the rheumatic poison, and is not necessarily, or even usually, accompanied by any perceptible change in the textures involved. It is simply a rheumatic disturbance of the affected tissue. It differs from the acute and sub-acute forms, not in nature, but in degree, and sometimes in the special textures involved the fibrous aponeuroses and muscles are apt to be more affected.

The treatment of chronic rheumatism does not differ from that of the acute or sub-acute form of the disease.

DISCUSSION.

Dr. Burke Haywood said he had listened to the paper with much pleasure. There was one objection to the relation between rheumatism and malaria, in that the former is so common in cold weather.

Mr. Tayloe, the author, explained that he said it was as common in summer as in winter.

Dr. Lee thought while the salicylates did good at times, there were times when they did but little good. Rheumatism is a very hard thing to deal with successfully. It is bad enough with acute cases, but still worse with chronic. You may try cold water, or hot applications, you may pack the joints in cotton, and you may use the salicylates and every other remedy, and then you will not be satisfied.

Dr. J. W. Jones thought the Society owed the author its thanks for his paper. He drew a graphic picture of a rheumatic, and referred to the advantage taken of this class by quacks. As to the analogy between rheumatism and malarial fever, he considered it a question yet to be decided. In a patient with the rheumatic diathesis exposure to cold brings on an attack. In treatment, our energy has to be addressed to reducing the temperature and the pain. But while we are treating the symptoms of this constitutional disease, it is doing its deadly work on the endocardium. The alkalies and the salicylates have been recommended to prevent damage to the heart. Taking a hint from nature, he would suggest a steam-bath or hot-air bath. Wrap the patient in cotton and secure absolute rest with splints and bandages applied to the joints. Address your medication to the condition of the blood. In chronic cases would use massage and electricity.

Dr. Booth wished to add his mite to the treatment of rheumatism. He referred to the use of Buffalo lithia water. He had had excellent results from sending his patients to the Buffalo Lithia Springs when they were suffering from an excess of acid. He spoke of the habit of people who, when they find that they have a spring containing a little lithia, at once announce it through the papers as a sure cure for rheumatism and kindred diseases. He did not think the virtue of lithia water due more to that than other salts contained in it. He has found Buffalo lithia water from Spring No. 2 especially useful in an irritable condition of the stomach.

Dr. Fitch concluded that six weeks in bed was about as good treatment as any he had found.

Dr. Hill spoke of the efficacy of fluid extract of phytolacca given in doses *ad nauseam*, with the application to the inflamed joints of tobacco.

Dr. Cobb put faith in red flannel and rest in bed.

Dr. McMillan had had good results from the application of tobacco, the patient having greatly improved even by the second day.

Dr. Herring had never seen the heart affected by rheumatism in a patient attacked for the first time after forty years of age. He drew the attention of members to the "growing pains" of children, which he said were especially liable to produce heart trouble. He thought we should pay strict attention to these "growing pains" and treat them.

Dr. McDowell agreed with the author's treatment by the salycilates for mitigating the pains and reducing the fever, but whether they shortened the disease was another question. Some of the cases which end shortly after the administration of remedies, may have been primarily cases that were to end in a short time. The principal objection to the salicylates is their irritable action on the stomach. He asked for the experience of members in the use of salophen.

Dr. Hodges warned against the use of tobacco poultices, he having had a severe case of poisoning from their application to only one elbow-joint. In regard to salophen, it was only a new form for the administration of salol, with which latter drug he had had experience. He reminded members of the large proportion of carbolic acid contained in salol. He has found the following prescription a good one: Salol, gr. iij.; phenacetin, gr. iij.; cocaine, gr. 1-6. Make one capsule. He thought that in the treatment of chronic rheumatism rest and massage had not had their day, but that they would.

Dr. Haywood did not know the cause of the hyperpyrexia. He has read no views on this point which are satisfactory to him.

Dr. Hays called attention to the multiplicity of remedies suggested for the relief of rheumatism, which fact was in itself evidence that none of them were specifics. Dr. Robert P. Pool had used almost every known drug, and then treated 40 cases without any drug, and the latter did about as well as the former. He wished to emphasize the fact that rheumatism is a self-limited disease. His treatment is water, internally and externally. He does not care for it to be lithiated. He tries to get his patients to drink as much as a gallon of water a day, so as to wash out, as it were, the morbid material from the blood. He prefers hypodermics of morphia for the relief of pain, and cold water for the reduction of temperature. Outside of these he has but little faith in the remedies recommended.

Dr. Tayloe thought the salicylates preferable to morphine for the relief of pain, there being danger of forming the habit with the latter.

A PECULIAR CASE OF ACUTE ARTICULAR RHEUMATISM.

By S. J. Montague, M.D., Winston, N. C.

Read before the North Carolina Medical Society, Raleigh, May 9th, 1893.

The following case of *acute articular rheumatism* with peculiar complications, though incomplete, owing to a failure to take notes at the time, is sufficiently rare to justify reporting in part:

About the 10th of December, 1892, J. G., a strong and vigorous white man, employed in town as a butcher's assistant, with tolerably steady habits, including daily consumption of several drinks of raw liquor, and of the age of about 30 years, was taken with pains in his right thumb and shoulder, accompanied by considerable elevation of temperature. I did not see him till a week after this, though I have reason to believe that he got the treatment usual to such cases. He was at this time suffering with a well-marked case of acute articular rheumatism, with ankles and knees swollen and so tender that he could not turn without help, and then only with much pain. He had the usual remedies, with the effect of mitigating the symptoms. Presuming from the circumstances of his case—previous habits, heavy eater and drinker, now with foul tongue and ill-smelling breath and deficient action of the bowels—that this department of his economy might be at fault, I gave him some doses of calomel, alternating with Rochelle salts, with the effect of bringing away enormous quantities of ill-looking, offensive-swelling feces, and this purging was kept up for several days, until the discharges assumed a more natural appearance. There was evidently fecal accumulation, but not obstruction here, as he had had sulphate of magnesia, with its usual effect, in the beginning of his attack. The effect of the calomel and salts was a great relief to him in a general way, and I am of the opinion that, upon the appreciation and proper treatment of this one condition, the favorable termination of the case depended more than any other.

About two weeks after taking his bed, after the administration of some pills of salicylic acid, he was taken with a ferocious itching and burning of the entire skin and swelling of his face, closing his eyes—indeed, it looked like a case of erysipelas of the head. The pain in his joints was not so severe while he was quiet, but the itching and pain in his hands, feet and skin generally was intolerable, necessitating large doses of morphine and other anodynes to keep him quiet and to procure a little sleep. I have no doubt that this condition was a multiple neuritis, classed by writers among diseases of the peripheral nerves, and mentioned in Pepper's System as an occasional concomitant of polyarthritis. The same authority says not a few cases are caused by chronic alcoholic poisoning. Cold is etiologically responsible for many cases, acting under cover of alcoholic poison, which partially anæsthetizes and paralyzes the peripheral nerves, causing more than the normal quantities of blood to move slowly through the capillaries. Any unusual exposure in this condition is liable to be followed by inflammations such as neuritis, pneumonia, pleurisy, etc. This peripheral neuritis

lasted about a week, and was treated by soothing anodyne and oily applications. When the pain and itching subsided, the skin began to die, and in fifteen to twenty days he literally shed his entire integument, that of his feet and hands coming off entire and whole, facilitated by cutting around his nails—that from his feet his attendants called his slippers, and they remained for days setting under the foot of the bed. For eight weeks he was not in his proper mind, but imagined himself engaged in his usual pursuits. The delirium was not severe, and the coma from which he suffered later on was such that he could be aroused sufficiently to take nourishment and medicines. The action of the heart, assisted by digitalis and strophanthus, kept good and was not attended then or since by any inflammatory trouble. The urine was scant and high-colored, loaded with urates, but under the administration of diuretics such as potassæ acetas and buchu, it became more abundant and cleared up. He finally came to his right mind and slowly recovered sufficiently to do light work. He says his hair is coming out and he is losing his nails; but what troubles him more than these is that he is changing color—from white to something like the color of an Indian.

THE RATIONAL USE OF ERGOT IN OBSTETRIC PRACTICE, WITH A PROTEST AGAINST ITS ABUSE.

By J. Howell Way, M.D., Waynesville, N. C.

Read before the Medical Society of North Carolina, Raleigh, May 9th, 1893.

Notwithstanding the fact that scarcely without exception every modern obstetric writer and teacher of reputation expresses the firm conviction that in only a decided minority of obstetric cases is the exhibition of ergot prior to the termination of the second stage of labor justifiable, there is yet little question but that this advice is wholly cast aside by a very large number of practitioners, both in town and country. Not with the idea of presenting any new facts upon this subject to the Society, but rather to recall to our minds information we all in common possess, and to incite a free discussion of the subject, in which we shall have full expression of opinion from North Carolina obstetricians, is the object of the brief paper I have the honor of presenting. The subject is an old one, but the wide difference of opinion, and more especially of practice, existing among physicians, aside from its own intrinsic importance, will, I trust, render it worthy of your atention.

The character and extent of the evils of ergot are so well known that their bare mention here will suffice. Lacerations involving the cervix, vagina and perinæum, retention of placenta, acute toxic ergotism and gangrene, rupture of uterus, death of the child, and even that of the mother, all proclaim the power and the perils of ergot. Yet, in the face of all these possible evils, ergot remains, in my opinion (quinine possibly excepted), the most generally abused of all drugs, there being within the limits of my own observation numerous medical men who give it freely before the end of the second stage of labor. The average practitioner will not always stop to discriminate. He well knows that ergot will powerfully stimulate uterine contraction in most women. Ergot is therefore given to hasten delivery, and the risks of these evils are incurred. The dangers in the routine use of ergot prior to the end of the third stage are equally positive, though of course the death of the child and ruptures of the cervix, perinæum, vagina or uterus, are not now in the count. Closure of the uterus, with incarceration of the placenta, is a not infrequent result, since it is a clinical fact that the action of ergot tends especially to influence the contraction ring of Schrœder, thereby closing the os internum rather than producing expulsive contraction of the upper portion of the uterus. Should the placenta not be retained, clots usually are, owing to this faulty method of contraction.

But a still greater danger lurks here and is not usually seen. The tonic contraction induced by the ergot does not result in thickening the uterine walls in the upper uterine segment (the most frequent placental site), with corresponding thinning of the lower uterine tissues. In other words, it does not produce retraction, which is the permanent protection from hæmorrhage as well as the first step in uterine involution. The condition of perfect uterine retraction is only to be secured by the intermittent contractions and relaxations which rythmically

occur in the normal uterus at this time. From this standpoint it must be evident that the frequent routine practice of administering a full dose of ergot upon the delivery of the placenta, is not only unnecessary, but must in many cases be positively hurtful. Of course, where there is a lack of contractility sufficient to prevent hæmorrhage and induce normal retraction, ergot is undoubtedly our most valuable agent, and should be given. Without proper uterine retraction it is impossible for perfect involution to take place, and this process of retraction includes the gradual drawing up of the contraction ring of Schrœder by the shortening of the longitudinal fibres of the body and fundus in process of contraction, but as well the general re-arrangement of the muscular fibres of the whole organ, both during and subsequent to delivery. This re-arrangement of the muscular fibres so disposes them that those previously placed end to end now become situated side by side. In this way a general thickening of the uterine walls is produced, the vessels being both compressed and rendered more tortuous. Involution in reality begins with the degenerative changes which are set in action with the first pains of labor. These contractions, like the contraction of muscle cells elsewhere, gradually lead to the destruction of the muscular cells. Regularity and rythm of contraction in uterine muscle fibre is equally essential to perfect involution as it is to certain delivery of the fœtus. In like manner tonic contraction, inhibiting, as it does, all cell nourishment by bringing ultimate relaxation (paralysis), prevents retraction, thereby favoring hæmorrhage and sub-involution.

Every careful obstetrician in this audience has, I am sure, observed cases where no ergot had been given, after the delivery of the placenta the uterus presented a condition of stony hardness in marked contrast to the firmness characteristic of retraction. This stony hardness, if long-continued, exhausts the muscle cells and predisposes to hæmorrhage. Likewise the tonic contractions of uterine muscle fibre induced by full doses of ergot.

Dr. Mary Putnam Jacobi has directed professional attention to the relations existing between the arterial and venous circulation in the gravid and puerperal uterus. She says: "There is a tendency to venous excess in the uterine tissues from the moment of conception to the end of pregnancy." Venous hyperæmia, we all know, is the condition most favorable to growth, and the uterine changes during the whole time are solely those of simple growth. Again, quoting Dr. Jacobi: "When the first pains of labor begin, the venous excess is cut off by the clogging of the sinuses at the placental site with giant cells." Now, a relatively greater amount of arterial blood fills the uterus. This arterial blood, laden with the oxygen of nutrition, stimulates the large muscle cells into contraction." These contractions compress the veins and further diminish the venous supply; the continuation of this process expels the ovum and checks venous hæmorrhage from the placental site by venous thrombosis. After the expulsion of the ovum an excess of arterial blood is still required intermittingly, not only to produce the retraction induced by the after-pains, but also to furnish the oxygen necessary to the gradual reduction of the now useless elements into fatty detritus preparatory to absorption. The facility of absorption by veins

and lymphatics depends upon the relative difference between the venous and arterial tension. Likewise, to secure rapid and perfect involution, a certain relation must exist between the venous and arterial pressure. An excess of venous blood will, by retarding absorption and fatty degeneration as well, favor sub-involution." So, too, high arterial pressure will, by delaying the constructive process in the endometrium, which, being processes of growth, are best performed under low pressure, interfere with proper involution. It is very important, especially at the placental site, that the involution changes of the endometrium be performed as rapidly as possible, it being established that, under normal conditions, it is entirely reformed much earlier than the complete degeneration of the muscular tissues take place. The new uterus is formed chiefly from the development of the muscular nuclei, while the large fibres of the gravid uterus are reduced to fat and absorbed in the process of involution, this process being much slower here than in the endometrium, from the relatively greater excess of arterial blood. Thus the result of a nice balance between arterial and venous pressure in the process of uterine involution is apparent. Is it not, therefore, manifest that the disturbance of this normal relation by the substitution of the hard tonic contractions of ergot will prevent proper and speedy involution, will prolong the puerperium and indirectly favor sub-involution? Again, the tonic contractions of the womb induced by ergot are disadvantageous in that there is confined in the general circulation a considerable quantity of blood usually lost in the intervals of relaxation which normally occur. A certain amount of blood lost in parturition being, I believe, conservative. Instead of blood being required for two lives, it is only now needed for one, and that one requires less than before in that it is not required to perform the laborious functions so recently demanded of it. An additional advantage of a slight sanguineous flow is in permitting the escape of blood surcharged with the effete products of recent activity. Such, indeed, are the likely results from the use of ergot in full doses. In very small doses the evils are very much less, in fact, in very small doses the results may be rather salutary than otherwise. Such doses probably only increase the force of the usual contractions, not affecting the periods of relaxation, not materially disturbing the rythm of action. With very small doses where positively indicated, I have no issue to make; it is only against the far too frequent routine use of full doses I would serve a note of warning.

In conclusion, I believe that ergot may be safely administered in very small doses—5 to 15 minims of the fluid extract, before delivery, in cases of uterine inertia which resist other means, more especially in women whose past history indicates a possible predisposition to hæmorrhage. In post-partum hæmorrhage it should be freely given, both per os and by subcutaneous injection. In cases where anæsthesia has been freely induced during the second stage, small doses may be given with advantage. Again, during puerperal convalescence, where the uterus remains large and flabby, with continued tendency to sanguineous flow, ergot in small doses will be of value, especially if combined with quinine and nux vomica.

DISCUSSION.

Dr. Hines remembers to have given only one dose of ergot before the second stage of labor, and that dose caused the death of the child through pressure The labor had been brought to a stand-still by the too free administration of chloroform. He thinks it one of our most valuable drugs when properly applied.

Dr. Booth said that in his early days he had practiced in copartnership with one of the most intelligent men in the State. He was of that class who advise the use of ergot just before the birth of the child, provided the parts were ready for dilatation. He followed the practice of his associate, and he then began to have hour-glass contractions, post-partum hæmorrhages, etc., while he had never seen a case of hour-glass contraction before. He is opposed to giving ergot when there is anything in the uterus. He does not believe there is any necessity of giving ergot in a routine manner after labor, as is the custom with some. Labor is a physiological process, and he thinks this kind of meddlesome midwifery has done more harm than any other kind.

Dr. Way was glad to see that those who had discussed the paper seemed to be of the same mind with the intent of the author.

A CASE OF CÆSAREAN SECTION.

By J. T. Nicholson, M.D., Bath, N. C.

Read before the North Carolina Medical Society, May, 1893.

On Sunday, April 16th, 1893, I was summoned in haste to see a patient who, the messenger said, was very sick indeed, and wanted me at once. On my arrival at the house of my patient (which was about nine miles from my office, and situated within fifty yards of the Dismal Swamp of North Carolina) I found my patient to be a young negress, unmarried, about 18 years of age and in hard labor. I learned from the midwife who was with her that she had been in labor for about forty hours, and that the membranes had ruptured about thirty hours previous to my arrival. She had a very rapid pulse, with tongue heavily furred with a brownish coat. I immediately made an examination per vaginam and found the following condition: The os uteri high up in the pelvis, in fact, I could scarcely reach it with my index-finger. The os was well dilated, with a small caput succedaneum protruding through the lips, yet, while the woman had labor pains, the head did not descend any at all. I introduced my middle finger with my index-finger, which gave me an inch more in length, when I discovered that the head of the fœtus was lying over, and nearly anteriorly and above, the symphysis pubis. I also found that just posteriorly and left laterally there was a bony structure, which I at first took to be a two or double-headed monstrosity; I, however, discovered it to be the promontory of the sacrum, and that I had a case of deformed pelvis to contend with. I found the antero-posterior diameter to be about 1½ to 2 inches. I knew, from the size of the head of the child, that the woman could never give birth to the child per vias naturales; so I told her mother the situation, and that the only thing there was to do was to perform the Cæsarean Section. She gave me her free consent to do whatever I could to save her child. I immediately went to my buggy and got my obstetrical bag, which contained my pocket case of instruments, sponges, ether, chloroform, etc. (I will here add that my former drug clerk, Mr. J. P. Bragg, who had lived with me about two years, was with me, and while at the buggy I asked him if he thought he could administer chloroform for me to a patient who was in labor. He said that he had never seen a labor case in his life, but that he was willing to render me any assistance in his power.) We went into the house, and, after first antiseptisizing thoroughly all of my sponges, towels, instruments, etc., I placed my patient on the table and proceeded to give ether, of which I only had about two ounces; I then gave chloroform; then, after a futile attempt to introduce the obstetrical forceps, I shaved a portion of the symphysis pubis and washed the abdomen well with a bichloride solution of 1 to 2000. An incision of five inches was then made in the median line extending from a little to the left of the umbilicus nearly down to the symphysis. (I would here state that she was so deformed that I could not get the proper distance from the umbilicus to the symphysis pubis.) In my first incision I cut through the skin and subcutaneous tissues; one incision more and I cut through the linea alba; this exposed the peri-

toneum, which I carefully grasped with a pair of small dressing-forceps, and, after making a small incision, I took a blunt-pointed bistoury, and, using my fingers as a director, I laid wide the peritoneum to correspond with the incision made in the abdominal walls. This brought the uterus into full view, in which I immediately made a small opening, as I did in the peritoneum; then, taking the blunt-pointed bistoury again, still guided by my fingers as a director, being careful not to cut the placenta, I opened the uterus down to where the membranes had been ruptured, and where there was a partial separation of the placenta from the uterus. The head and a portion of the body of the child were now exposed lying in the R. O. A. position. I then ran my right hand down in the incision made into the uterus near the symphysis pubis, got my fingers under the head of the child, and, with my left hand on the abdomen over the fundus of the uterus to steady it, I elevated the head and brought it through the opening made in the abdomen and uterus, without rupturing or cutting in any manner the placenta. After tying the cord, I called the midwife and gave her the child, which I found to be almost in a state of asphyxiation.

Up to this time I do not think that my patient had lost over one ounce of blood. I immediately placed my hand back into the opening, and, beginning to work my fingers between the placenta and the uterus, and with gentle traction on the cord, I found no difficulty in delivering the placenta. After the delivery of the placenta the uterus relaxed somewhat, and then I had some hæmorrhage to contend with. I thrust my hand into the uterus, cleaned out all clots and pulled the uterus up well into the abdominal opening and held it there for a few minutes, when the contractions seemed to become permanent. I then sponged out the uterus and abdominal cavity, where practical, with the bichloride solution of 1 to 5000. I then sewed up the incision in the uterus with the continuous and interrupted suture, using carbolized silk. After stitching up the incision made in the uterus, I again sponged out well the abdominal cavity and sewed up the peritoneum with a smaller-sized suture. I then sewed up the incision in the abdomen, using the interrupted suture. Not having any iodoform gauze with me and very little iodoform, I dusted the wound with what iodoform I had; then I placed a piece of absorbent cotton, dipped in the bichloride solution of 1 to 6000, and applied a piece of dry absorbent lint over it. Then, after applying the adhesive strip and abdominal bandage, I put her to bed in fifty minutes from the time of her going on the table. And I will here state that I did not use any drainage, as I did not think there could be any leakage after the thorough closure of the incision of the uterine walls. Nor did I have to ligate a single blood-vessel. She soon aroused and expressed herself as feeling much better.

I left to return on the next morning at 10 o'clock, Monday, April 17th, when I found child and mother in good condition; the latter expressed herself as feeling first-rate, with the exception of a little soreness. She had slept and rested well all night, waking but once during the night. Temperature 99°, pulse 120, and the nurse had drawn about four ounces of urine during the night with a soft flexible catheter, which I had left in her charge, with directions to evacuate the bladder every six hours. I then introduced the catheter and drew off about four ounces more of urine.

April 18th, 10 o'clock, a. m., I found the patient still resting well, but the nurse had failed to draw any urine, saying: "God knows I could not hit dat little hole." I immediately introduced the catheter and drew off fourteen ounces of urine. Temperature 99°, pulse 105. She had taken whiskey during my absence, and had also slept well all night; did not wake but once, and then was awakened by the old midwife (the nurse), trying to find "dat little hole."

April 19th, 8 o'clock, a. m., I found her still resting well. The first thing she wanted to know was if she could have her snuff. Temperature 99½°, pulse 110. And the old nurse had still failed to find "dat little hole"; so I again drew off fifteen ounces of urine.

April 21st, temperature 101°, pulse 110, respiration 22. She had voided urine two or three times during my absence; bowels moved from warm water enemata for the first time since the operation. Finding tongue still heavily coated and my patient more restless than usual, I administered a small dose of calomel combined with Dover's powder.

April 23d, patient resting well; had felt much better since the calomel acted. Temperature 99°, pulse 96, respiration 20. She had taken nourishment, such as milk, bovinine, crackers and whiskey; expressed herself as feeling well enough to walk a mile. This was the eighth day, and as no unpleasant odor had emitted, I had not disturbed the dressing before. I found upon removal of the dressing that the wound had healed by first intention. The dressiug was not the least stained.

I left to return on the 25th, when I found my patient restless, with a temperature of 102°, pulse 100, respiration 22. I learned from the nurse that, contrary to my orders, the patient had turned over the night before, and that it made her very sick indeed, so much so that she started to send for me. Upon examining the wound, I found the dressing damp from a serous discharge. Upon removal of the dressing, I discovered the abdominal wound gaping about an inch. I immediately washed the wound, using a carbolized wash, and dusting the wound with iodoform, I strapped the abdomen well with adhesive strips about one inch wide.

On the 27th the patient was resting well. Temperature 99°, pulse 90, respiration 20. I turned her over, and, to my surprise, I discovered a bed-sore (of which she was not aware, as it had caused her no pain or inconvenience) on her right buttock; owing to the deformity of the pelvis, nearly all of her weight concentrated on this spot; abdominal wound healing nicely. I removed all stitches in the abdominal incision to-day.

May 8th.—As there has been no deviation from a steady, happy convalescence, I will not inflict upon you a long tabulated daily report of the case; but I am happy to state that the mother and child are both living and doing well.

Now, in conclusion, allow me to say that, while appreciating the fact that I was not expecting to be called upon to perform an operation of such a grave character, and that I had no professional aid, still, realizing, from the exhausted condition of my patient, that time was precious, this operation was decided upon after a most careful exploration of the pelvic

regions, ascertaining by touch (the only means I had) the nature and extent of the obstruction; and thoroughly satisfying myself that the pelvic contraction was so great as to make delivery of the child utterly impossible.

Realizing the momentous fact that there were two lives at stake, what other course could I have pursued? To have attempted craniotomy or embryotomy in this case, it seems to me, would have been a criminal act; for in the former there is a positive certainty of one death, and perhaps two. And the child, which is in no way responsible for the position it occupies, has certainly some just claims which demand our consideration and some effort on our part for its protection. Then, with the undeniable facts before me, I did not hesitate to do that which, in my opinion, was the only thing that was left for me to do, and I did it without hesitancy.

REPORT ON SURGERY.

By J. P. Munroe, M.D., Davidson College, N. C.

Read before the North Carolina Medical Society, Raleigh, May 9th, 1893.

The brilliant results of modern antisepsis present an inviting field to any one entering upon a discussion of general surgery. It is assumed, however, by the writer of this paper, that the members of this Society are familiar with the practical details of aseptic and antiseptic methods, and that every one realizes the importance of those researches which lead first to the discovery of the living organisms which are the exciting causes of pathological conditions, and secondly to the means by which these organisms may be destroyed.

It is to the practical application of these principles to a few diseased conditions that I invite your attention to-day. Nor will it be possible in one brief paper to touch upon all the surgical diseases even of common occurrence. I shall discuss briefly a few of those more commonly met with in our State, and present a summary of the work done by our own members alone this line. Indeed I have been so impressed with the fact that North Carolinians report so few cases, that I have endeavored to secure data for arranging a summary of important cases treated during the past year by members of this Society. That my efforts have been largely successful has been due to the kindness of various members in responding promptly to my request for information. On the other hand, such a summary is necessarily incomplete, because so many did not find it convenient to fill out and return the blanks which I mailed to every member of the Society. It was my purpose to ascertain the important cases treated during the past year and unreported cases previous to that time.

We have a few interesting cases of *Aneurism* reported:

Dr. C. M. Poole, traumatic aneurism of arm; amputation—recovery.

Dr. J. H. Wolff, diffuse aneurism popliteal artery; amputation thigh, lower third—recovery.

Dr. H. T. Bahnson, aneurism popliteal artery; ligation fem. artery; subsequent gangrene necessitating amputation—recovery. By the same—aneurism popliteal artery; ligation femoral artery at apex Scarpa's triangle—recovery.

Dr. C. M. Poole, aneurism at elbow; amputation—recovery.

I find an interesting report of cases in the *Lancet* of Mackellar's, in which he tied both femorals with good results. At the end of a year, however, a tumor appeared behind the manubrium, and for this he ligated the common carotid and right subclavian in its third portion.

I have had reported 3 cases of *Empyema*, treated respectively by Drs. Bahnson, Harrell and Boyette, with successful results in each case, and all treated by incision and free drainage—Dr. Harrell also washing out the thoracic cavity.

Three cases of *Tracheotomy* have been reported, as follows:

Dr. R. H. Whitehead, for stenosis of larynx—good results.

Dr. A. Holmes, for foreign body in bronchus—good results.

Drs. Gibbon and Meisenheimer, for foreign body in bronchus—good results.

A record of 572 tracheotomies on the Continent for diphtheria gives an average recovery of $44\frac{3}{4}$ p. c., while in this country it is about 30 p. c. I had no report of the operation in this disease in our State.

The following is an interesting list of *Laparotomies:*

Dr. H. T. Chapin, ovarian tumor; drainage not mentioned recovery.

Dr. A. Holmes, " " " " "

Dr. R. L. Payne, Jr., " " drainage used—recovery. By the same—ovarian tumor; drainage used—death; shock.

Dr. R. H. Lyle, ovarian tumor; drainage not mentioned—recovery.

Dr. R. H. Whitehead, tubercular peritonitis; drainage not mentioned—died in two months.

Dr. J. A. Hodges, intestinal obstruction, drainage not mentioned—died; waited too long.

Dr. T. S. McMullen, chronic salpingitis, drainage not mentioned; tendency to recover.

Dr. H. T. Bahnson, fibroid uterus; drainage used—recovery. By the same—fibroid cyst; drainage used—died in three months.

Dr. S. H. Lyle, two cases pelvic abscess; one cured and one improving.

Dr. W. S. Davidson, gall-stone tumor; excision of gall-bladder—recovery.

This last is one of the rarest operations on record, and this young surgeon deserves especial credit for the boldness and skill manifested in its management. The tumor was immense, filled with fluid and contained about 75 stones It is now about two and a half years since the operation, and the woman is in good health.

Although some of the above operations belong especially to gynecology, they are done by our general surgeons, and I would call especial attention to the good results obtained. I regret that more of our members did not report their cases Several cases have been mentioned to me since coming to this meeting, which are not included in this report. I happen to know of a surgeon in one of our cities who has done three successful laparotomies in the last few months, and no report has been made of them. I understand that this gentleman solemnly avers that the printers shall have nothing more from him until their proof-readers are all Solomons and their devils are all angels. I am not here to advertise any one man, but only to do just honor to the home talent of our beloved State, and I am sure that I create no invidious distinction in saying that this able, I may say great, but modest and unassuming surgeon is Dr. W. J. Love, of Wilmington.

Diseases of the *Bladder* and *Urethra* were reported as follows:

Dr. H. T. Bahnson, vesical calculus; supra-pubic lithotomy—recovery; stone weighs $6\frac{1}{2}$ ounces.

Dr. W. H. Harrell, vesical calculus; perineal lithotomy—death from pyelitis in seven weeks.

Dr. R. H. Whitehead, vesico-cerv. vag. fistula; suturing with silver wire—recovery.

Dr. W. H. Harrell, urethral stricture and perineal fistula; external and internal urethrotomy—recovery.

Dr. S. H. Lyle, 22 cases stricture urethra; internal urethrotomy—20 recoveries and 2 failures. By the same—1 case stricture urethra; perineal section—cure.

Dr. J. H. Wolff, 1 case stricture urethra; internal urethrotomy—cure.

Dr. J. P. Munroe, 1 case stricture urethra; internal urethrotomy—cure. By the same—1 case stricture urethra; external urethrotomy—cure. By the same—1 case stricture urethra; internal urethrotomy—death.

I wish to say just a few words as to the preparatory treatment of cases for urethrotomy. As is well known, any operation upon the urethra is very apt to be followed by a chill and rise of temperature. In fact, this is often seen even after the introduction of a sound. This is generally supposed to be due to some form of septicæmia, septic matter of some kind being absorbed through the wounded mucous membrane. I have not been able always to prevent its occurrence, but the best prophylactic with which I am acquainted is quinine and salol, given in repeated doses for at least twelve hours previous to the operation.

The theory of their action has been explained to be that of internal antiseptics, the salol acting especially on the urethral mucous membrane.

Two cases of strangulated *Inguinal Hernia* have been reported, as follows:

Dr. T. E. Anderson; herniotomy—recovery.

Drs. Gibbon and Meisenheimer; herniotomy—recovery.

Three cases *Fractured Cranium* have been reported:

Dr. S. H. Lyle; trephined—recovery. Drs. Gibbon and Meisenheimer; trephined—recovery. Dr. W. L. Davidson; trephined—recovery.

The two following cases of *Skin-grafting* were reported:

Drs. Gibbon and Meisenheimer; Thiersch's method—recovery. Dr. W. L. Davidson; cicatrix from burn; Thiersch's method—recovery.

These are rare operations, gentlemen, and the fact that our own surgeons are having success in this, one of the greatest of modern achievements, is cause for just pride.

I notice several other unclassified operations: Drs. Gibbon and Meisenheimer, polypus of uterus; removal—recovery. Dr. H. T. Bahnson, sessile fibroid of uterus; enucleation—recovery. Dr. J. M. Boyette, gun-shot wound in thorax; opened and removed clots—recovery. Dr. J. H. Wolff, gun-shot wound in eye; enucleation—recovery. Dr. W. G. Stafford, gun-shot wound in orbit; incision and extraction of ball—recovery. Dr. R. L. Payne, Jr., atresia vaginæ; dissection; use of glass plugs with perfect results.

Appendicitis.—Dr. S. H. Lyle, 2 cases appendicitis; medicinal treatment—recovery. Dr. J. H. Wolff, 1 case appendicitis; laparotomy—death. Dr. J. P. Munroe, 1 case appendicitis; medicinal treatment—recovery. Dr. E. B. Haywood, 1 case appendicitis; medicinal treatment—recovery.

Diseases of Bones and Joints.—Upon this interesting class of cases I have had the following reported: Dr. H. T. Chapin, 2 cases tuberculous ankle; amputation of leg—recovery. By the same—1 case tuberculous knee; amputation of thigh—recovery. Dr. R. H. Whitehead, osteo sarcoma, hip; amputation—death. Dr. J. H. Wolff, coxalgia; incision and drainage—cured so far. By the same—tuberculous disease of tibia; excised 8 inches bone—new bone formed. Dr. W. H.

Harrell, necrosis of femur; bone-scraping—recovery. Dr. R. L. Payne, Jr., ununited fracture of femur; incised and removed piece of wood—recovery. By the same—necrosis tibia; sequestrotomy—recovery. By the same—compound fracture tibia; resection tibia—recovery. Dr. S. H. Lyle, necrosis femur; resection—recovery. Drs. Cox and Staunton, fractured patella; Hamilton's method—recovery; stiff. Dr. J. P. Munroe, necrosis carpus; excision of wrist—partial recovery. By the same—tuberculous disease radius; excision entire radius—recovery; useful limb. Dr. R. Gibbon, 3 cases compound fracture leg; amputation—two recoveries, one death. By the same—1 case compound fracture both legs; amputation—death. By the same—1 compound fracture arm and head; amputation and trephined—death. Dr. J. A. Hodges, 1 compound fracture leg; amputation—death; shock.

I desire to emphasize the fact illustrated by these cases that we can often save a useful limb by excision and resection, and that we should always give our patient the benefit of these conservative operations in every case that does not urgently demand amputation. Morris, in the *New York Medical Journal*, describes the treatment of necrosed bone with hydrochloric acid and pepsin, and claims good results, but I have had no experience with it.

The acute inflammatory stage of joint disease always demands rest. The treatment of the destructive stage varies with its extent and with the views of the surgeon. Sayre recently reported seven consecutive cases of hip-joint disease treated with portable traction splints, allowing limited motion, with perfect results in six and fair results in one.

Tuberculous destructive disease of the knee, while sometimes requiring amputation, ought to be treated by excision in every case possible, for the results of this operation are very satisfactory, and it is much better to leave your patient with a *stiff* leg than a *wooden* one.

Among the cases reported to me I find a prominent place held by *Malignant Growths.* I give the following summary of some: Dr. J. A. Hodges, 2 cases cancer cf breast; extirpation of gland—recovery. Dr. R. L. Payne, Jr., 1 case cancer of breast; extirpatiou of gland—recovery. Dr. C. M. Poole, 3 cases cancer of breast; extirpation of gland—2 recoveries, 1 death, after 3 operations. By the same—1 case cancer in axilla; extirpation of gland—recovery. By the same—1 case cancer on neck; extirpation—recovery. By the same—1 case epithelioma; caustic—recovery. Dr. J. P. Munroe, 1 case cancer of breast; extirpation of gland—recovery. By the same—2 cases cancer sub-maxillary gland; extirpation of gland—recovery; one died from return of disease. Drs. Gibbon and Meisenheimer, 1 case cancer of breast; excision—recovery. Dr. W. H. Harrell, 1 case cancer of breast; excision—recovery. Dr. T. S. McMullen, 1 case sarcoma hand; excision—recovery.

It will be observed that the treatment followed in all these cases but one is excision with the knife. This is undoubtedly the best treatment known in every case that will admit of it. I believe, however, that the knife should not be used unless there is a probability of removing all the diseased tissues. Caustics are frequently followed by good results, and if they are used, the potential caustics

are to be preferred, or, better still, the actual cautery. The aniline dyes, especially pyoktanin, have been used with apparent benefit recently. Von Mosetig Moorhof first suggested this treatment, and Meyer, of New York, claims a cure in 10 p. c. of cases that would not admit of operation. He uses pyoktanin internally in doses of 10 to 12 grains and also locally. Its local use causes a breakdown and discharge of diseased tissue. It is stated, however, that the epithelial cells and their nuclei are not affected by these substances If this is true, we have little to hope for in this direction, especially if the recent conclusions as to the etiology of malignant growths be established

As early as 1847 Virchow recognized certain peculiar bodies in and between cancer cells which he supposed to be concerned in the degeneration. Since that time numbers of investigators have been at work on these minute bodies, claiming, with Virchow, that they are the specific cause of disease and that they are true parasites, belonging to the *protozoa* or *unicellular* forms of animal life. While these studies were in progress the bacteriologists were by no means idle, and in 1887 Scheurlen produced cultures of a bacteria which, injected into dogs, caused tumors very similar to cancer. It may be noted that bacteria are *vegetable organisms*, while the bodies described by Virchow and his followers are *animal organisms*, unicellular forms of animal life. Since 1890 but little has been heard from the bacteriologists, but the advocates of the parasitic theory are becoming more confident. Foà, of Italy, Soudakewitch, of Russia, and Sawtscheuke, in Germany, have found the parasites in carcinomatous tumors, and Ruffer, of England, describes, what has been observed for the first time, the *intra nuclear* stage of the parasite. While we may not accept these observations as conclusive, we have great reason to hope that light is breaking, and that we are on the eve of great discoveries in the pathology and treatment of these dread diseases.

I have thus presented, as you see, gentlemen, an outline of what our own surgeons are doing, with a few suggestions here and there as to the methods of treating the diseases mentioned. My chief aim in presenting the subjects in this way is to arouse among our members more interest in surgical work and to induce them to let their professional brethren and the world know something more of what we are doing. Moreover, I believe the information I have collected is a valuable nucleus around which may be gathered other trophies—many untold achievements which, if published to the world, will add new lustre to the society of physicians and surgeons whose modesty is equalled only by their ability.

DISCUSSION.

Dr. Way thought the paper a remarkable one, in that it shows that the surgeons of North Carolina are the peers of any in the country, and he wished to emphasize the fact that it was entirely useless to send patients out of the State for operation.

Dr. Hodges was much gratified by hearing told some of the deeds of North Carolina's surgeons, and he hoped this would lead to disclosing to the world to a still greater extent the fact that our surgeons are doing daily as good surgery as can be done anywhere. With the hope of bringing to light some of the hidden

achievements of our home surgeons he was authorized to make the following offer:

The NORTH CAROLINA MEDICAL JOURNAL offers $25 in surgical books or in cash to the member of this Society who will present at its next meeting the best History of Surgery in North Carolina. The committee on this prize is to consist of Drs. J. M. Hays, J. W Long, and the third member, to be named later, and to reside in the place where the next meeting of the Society is to be held.

Dr. Long felt proud that he was a North Carolinian after hearing the paper, and thinks the author is doing a work which will bring forth good fruit.

Dr. Hines commends to the Society the author's words in regard to the modesty of North Carolina surgeons. If their works were known to the world they would say one of two things—either it is a lie or it is a marvel. During the late war the surgeons of the Confederate army did operations on the battle-field that were equal to any the world had seen. Some of those operations were as wonderful as any he had seen done in the hospitals of Paris or Philadelphia, and would have done credit to any men that ever lived. He hopes now we have a journal established, the members will do their plain duty and make their works known through its columns.

He reported a remarkable case of recovery from a compound, comminuted fracture of both bones of one leg by a railroad accident. The patient was a negro man, and he recovered without the touch of a knife, and with no attention except that of his wife, who was his only companion in a little log hut, and she had to perform all her other duties and earn a livelihood for herself and injured husband while she was nursing him.

Dr. Powers thought we should take courage, particularly as regards cancer, inasmuch as recent research has removed it from among constitutional diseases and placed it among those of local origin. That it is parasitic in nature and local, are arguments for early operation. Recent investigators have claimed the psorosperm to be the cause of cancer. These psorosperms are found around the nucleoli of the cancer cells, and by constant reproduction they fill the cell, which bursts and liberates into the surrounding fibrous tissue a brood of young parasites. He thought there was hope that cancer would become a manageable disease by early operation.

Dr. Munroe requested all those who had received blanks from him to fill them out and send them to him, and also asked that any member having any points of historical interest in regard to his own work or that of any of his friends, alive or deceased, would confer a favor by sending them to him. He placed at the disposal of any member who desired to compete for the NORTH CAROLINA MEDICAL JOURNAL prize all the information he might be able to accumulate.

Dr. Randolph Winslow desired to bring to the notice of the Society a fact relating to the work of his father, Dr. Caleb Winslow, which would be of interest in writing up the history of surgery in North Carolina. While in this State, even before the late war, he operated 99 times for the removal of stone with only one death. He said that at that time this was the best record in the world, and that even at this date there were probably none better, when it is taken into consideration that his father's cases comprised men, women and children in all conditions, and that they were consecutive cases.

VIS NATURÆ.

By A. M. Ballard, M.D., Buncombe County, N. C.

Read before the North Carolina Medical Society, Raleigh, May 9th, 1893.

It is with some misgiving that I take your time and offer in exchange what may seem so poor an equivalent. What I have to say concerning the relative position which drugs occupy among the various resources of nature in the efforts to cure disease was suggested by witnessing an exhibition of "The art of curing disease by expectation or waiting."

Vis Naturæ et Vis Medicatrix Naturæ.

One of my medical friends asks, "What is it in English?" Now, this is just what I am going to speculate about, and if we can understand what it means in nature, then we know what it is in English, and in every tongue on the face of the earth. If I reply that Dunglison defines it to be a term employed to express that instinctive healing power in animal or vegetable, by virtue of which it can repair injuries and remove disease, does my friend understand any better the full signification of the term? We only know a thing so far as we know all its properties, functions and modes of acting. There has been a great deal of flippant talk about the power of nature to cure, and this talk has been indulged in many times, doubtless, without stopping to consider what nature is, or what are her powers. We believe in the power of nature to cure and her power also to kill—all powers belong to nature, but not always do these forces obey her will. It is only when these forces are disobeying or are diminished, that we should interfere. There is a class of minds who think they must believe what they are expected to believe; who have an excess of veneration or reverence for current notions of society and the age in which they live. They are so ultra fashionable that they follow the fashions in their belief.

When Symon says, "*Thumbs up!*" theirs turn up; when he says, "*Thumbs down!*" down go theirs. They would rather appear to be anything, even a chamelion, than unfashionable. Such persons, and there are many such, will be unduly influenced by expressions of opinion from those occupying high positions, or who are supposed to occupy those positions. The sad effects of such unkind thrusts as these, given by persons from whom I will now quote, we see and feel too plainly in the painful condition of the public mind and the unwarranted suspicion of medicine. Some twenty-five years ago one of the Boston papers attributed to Dr. Oliver W. Holmes the remark that "If all the medicines in the world were emptied in the sea, it would be infinitely better for mankind and infinitely worse for the fish." The *New York Semi-Weekly Tribune*, December, 1891, gives publicity to the following: "Prof. Alexander H. Stevens, of the New York College of Physicians and Surgeons, says: 'The older physicians grow the more sceptical they become of the virtues of medicine, and the more they are disposed to trust the *powers of nature*, and notwithstanding all our boasted improvements,

patients suffer as much as they did forty years ago.' And again: 'The reason why medicine has advanced so slowly is because physicians have studied writings of their predecessors instead of nature.'"

Prof. John Smith, of the same school, says: "All medicines which enter the circulation poison the blood in the same manner as do the poisons which produce disease, and drugs do not cure disease. Disease is always cured by the '*Vis Medicatrix Naturæ.*' And again: "Digitalis has hurried thousands to the grave."

Prof. Alonzo Clark, M.D., of the same school, says, with many other condem nations of the methods of the school: "All your curative agents are poisons, and as a consequence every dose diminishes the vitality."

John Mason Good, M.D., F.R.S., says: "The science of medicine is a barbarous jargon, and the effects of our medicines upon the human system, in the highest degree, uncertain, except, indeed, that they have destroyed more lives than war, famine and pestilence combined."

James Johnson, M.D., F.R.S., says: "I declare, as my conscientious conviction, founded on long experience and reflection, that if there was not a single physician, surgeon, midwife, apothecary, druggist or drug, on the face of the earth, there would be less sickness and less mortality than now prevail."

How far these unqualified statements are simply the result of a misanthropical or cynical mood, or whether they represent at all the belief of the alleged authors, or what might have been their motive for making the statements here quoted, is of little interest, except so far as publicity given such statements, purporting to come from men in high authority, may prejudice the public against the system of practice, which we, as members of the great catholic school of medicine, have pinned our faith to, and for the success of which we are devoting our lives. For we, unlike the laity, cannot, if we are honest and have faith in ourselves, be long unduly influenced by the dictum of any one authority, since we owe no allegiance but to truth and fact, and the consensus of opinion in regard to any matter of which the great body of average medical men are capable of judging, must determine the truth and settle the question for us. Great men are liable to make great mistakes. A single individual, or several, may be deceived in regard to a matter of common observation, but the liability to err is reduced to a minimum by the concurrent opinion of thousands of clear-headed, honest, practical medical men. It might seem as little worth while to argue for a moment on the matter in question, as to spend time in proving the man is in error who says, "The sun does not shine!" or "The world is not round!" I have met but one man during my life, whose sanity was unquestioned, a level-headed, practical man, attempt to disprove the rotundity of the earth. How many there are who may have some doubts about the matter, I cannot say, but certainly, where there is one who believes the earth is flat, and a few more who don't know what to think about it, there are thousands and tens of thousands who are either convinced that the drug treatment is an unmitigated evil, or are very sceptical in regard to any advantage to be derived from the drug treatment. We form our opinion of anything by its relative or comparative qualities or posi-

tion, therefore if our ideal conceptions of the power which drugs possessed to cure disease have raised too high our expectations, when we become acquainted with the real limitations of their power, we estimate them as far below their real value. If, then, it were true (which in a certain sense it is) that men, as they grow older, lose confidence in drugs, it is because the active imagination of youth had clothed them in magic and specific attributes, which make their real qualities seem as nothing in comparison. That we lose confidence in drugs in one sense may be true, but as one illusion after another disappears as years roll on, we find, alas! there are few things in life in which we have not lost confidence, at least that we have not modified our opinion in regard to. It would be more correct to say that we do not value drugs less, but other things more relatively. It is important to consider that whatever change may occur in our estimate of any drug or drugs, our confidence in the principles governing the treatment by drugs continues unshaken.

All things are natural inasmuch as they are accomplished by, or are the manifestation of, the forces of nature. There is nothing below or above nature but the Supreme. But in speaking of nature we refer more particularly to normal nature, or that which is the result of natural forces acting in obedience to the universal will. Water may run up hill, but when we find it doing so we know it is natural under the circumstances, though we will find the circumstances to be that it is obeying not the universal or normal will, but a special or abnormal will, that of the man at the pump or engine. Therefore we say that disease is a natural process, since it is the result of natural forces, but these forces directed by a will in conflict with the universal or normal will, therefore abnormal, are insurrection against the central authority of nature. Whether it is better to bear the ills we know, or by a presumptuous interference to invite those of which we know not—whether it is better to rely on the efforts of nature, unaided by medicine or art, is now the question, of course. Most persons will say a presumptuous interference *is not* advisable. But it is a question with many whether any interference by drugs is wise—whether it is not presumptuous to use drugs at all! The belief prevails to a considerable extent that, as a man grows old in the practice of medicine, his faith in the value of drugs diminishes in the same ratio, since age must necessarily bring experience, experience wisdom and wisdom knowledge, that drugs do more harm than good. Professing, therefore, to have that knowledge, seems to many a guarantee of wisdom, because a lessening faith in drug treatment is what is expected in this age of experience and wisdom.

Drugs *are poisons* inasmuch as they do not belong in the system, and it is by virtue of their being foreign to the system that they are capable of producing physiological effects, acting along those channels and through those organs by and through which they are expelled from the system. But because poison, that they necessarily diminish the vitality, I deny. It is by the active use of any organ or function that its strength is preserved or increased, and even excess or abuse of action within a certain limit, can only lead to some abnormal development of size or strength. These drugs or poisons do not remain in the system, but are soon expelled by some organ or organs, and by the increased functional

action of these parts their strength is increased. To be sure the action requisite for expelling the poison absorbs some vitality, but vitality is not a fixed quantity, and nature returns the quantity expended with good interest.

It has been said, "Drugs do not cure disease"! What is it to cure? I consider this a relative term—one can cure a little or can cure still more, or cure until the patient is well. The Irishman who presented his bill "*For curing your wife till she died*," was correct in his expression. So far as a drug or person by any means does something for the sick one and thereby makes it easier for nature to throw off the disease, so far he cures, whether the patient lives or dies. The action of medicine is not so uncertain as might at first appear. Any drug having a physiological action can be relied upon to produce that action, allowing that the conditions are present under which it is capable of so acting; but nature is very particular, and before giving the drug, if the conditions under which it can act are not present, we must first produce these conditions; but whether its action will be curative depends much on our individual judgment. Remember, we are dealing with conditions, and not with names of diseases.

Certainly a very large class of what we call diseases, possibly the larger number, are the result of diminished dynamic energy—the force by which nature governs. That force which preserves and constructs becoming feeble, the destructive or negative force prevails, consequently the degenerative changes so often seen. We believe in the power of nature to preserve, and its power also to destroy, and it is our duty to make the best use of the knowledge we possess, and by every means control and direct these processes. We are relying as implicitly on the "*Vis Naturæ*," even exhibiting in a greater degree our faith in nature by active interference in behalf of the sick one, than by waiting and doing nothing; for it is none the less nature's work because her forces are first transmuted into right thought (natural thought) and then into right action on our part. And moreover, are we not a part of nature?

A doctor is in the same relation to his patient as a farmer to his farm. We often hear the latter speak of raising a crop as making a crop. Now, the best farmer cannot make a blade of grass or hill of beans grow. Nature only can do that, but by studying the ways of nature and observing the conditions under which the best results are obtained, he can do much in assisting. In the same manner a doctor cannot cure a patient, but by observing the conditions which nature requires in order that she may cure, he may do many things to assist You don't hear a farmer talk about adopting an expectant treatment in conducting his farm and garden, though you may find many farms and gardens that evidently have been treated according to that wait-and-do-nothing system. Man has no right to expect the best results from the operation of nature's laws while closing against her that avenue through which only she can manifest the highest of all her powers—"*Conscious intelligent thought and action*"—that avenue, the stupendous achievement of millions of years of evolutionary work which nature has prepared, that she may reveal herself more fully to the world.

The expression "*expectant treatment*," which means no treatment, seems to supply a necessity by explaining what we are doing when we are doing nothing for

our patient. It seems to cover the sometimes unavoidable ignorance of the doctor, or excuse his indolence, and if the lazy farmer cared to excuse his shortcomings, he would long ago have used the same or a similar word. Unfortunately these are cases to which only the expectant treatment is applicable. But I am sorry to say we too often see those suitable for active treatment, where nature is allowed to struggle along alone, the doctor making simply a show of doing something by giving a "*placebo.*" It is true that nature, unaided, will sometimes bring about a slow and imperfect cure, but handicapped as she is, her work is not so well or thoroughly done, and the after-condition of the patient is far from being as favorable as if nature's efforts had been supplemented by efforts on the doctor's part. Because we believe in the "*Vis Medicatrix Naturæ,*" is no reason why we should stand idly by and neglect to do that which the simplest common-sense would suggest, and by doing which we increase the efficacy of nature many fold. Drugs are to the physician what the tools are to the mechanic or artizan, and in dealing with the complex condition which we call disease we select this drug to do one kind of work and another to do something quite different. What would be thought of a carpenter should he use a pocket-knife to cut a board into proper length, instead of using a saw? or, if he wished to make a smooth, plain surface, he should use a hatchet instead of a plane? or, if he used a saw, specially adapted to cut at right angle with the grain, for the purpose of cutting the board lengthwise? We should undoubtedly conclude he did not understand that each instrument was adapted to accomplish a certain work, and could do the work better than any other. Let us make an application now to ourselves, and use our drugs within the sphere to which nature has adapted them. It is one thing to say we know a fact and another to realize the full force of what we say we know—to have assimilated that knowledge so that we feel the full force as a motive of action. It is not enough to know a thing is good, *but how good?*—that something is important, but how important? We must discriminate between those matters of minor importance and those of paramount importance—between the principle and auxiliary; otherwise our chief efforts will not be expended where they can do the most effective work for our patient. "Yes," you will say, "that is what I have always been taught; I know all that;" but do we realize the full force of what we say we know? Our actions only will tell.

Let us endeavor to realize what we now know, that disease is not an entity except in some few instances, but is a conflict between the forces of order and the forces of disorder, and when the scales are evenly balanced a feather's weight may turn them in either direction; therefore the importance, oftentimes, of little things. Let us not despise what seems a matter of small consequence. With our drugs, as well as by other means at our command, we may remove many a gross obstruction which could not otherwise be removed, and this being accomplished, the finer forces of nature can do the rest. Our crude mechanical and chemical forces, directed by intelligence, can as well serve a needful aid to nature in dealing with a sick person as in cultivating our farms and gardens.

Much has been said in condemnation of the practice of treating symptoms. Certainly we should try and remove the *first* cause, when that is known and when

possible to do so. It has been claimed that many symptoms are simply the manifestations of the efforts of nature to cure, and therefore should not be restrained, but we should wait for nature to discontinue her efforts in that direction. Certainly every symptom is natural under the existing circumstances, inasmuch as it is the result of nature acting according to reason or the eternal necessity of the case. Therefore, since natural, or according to nature, the symptom does not constitute the disease. The disease is that which makes it a necessity so to act. It is the primary disturbing element that caused the forces of nature to vary from their normal mode of acting. But although not the disease, and moreover, a perfectly natural phenomena, many tymptoms lead eventually to conditions which do constitute disease, therefore the wise physician will continue to treat symptoms, and by so doing hope to break the long chain of cause and effect. Because we cannot, unfortunately, go back to the first cause and remove that, it is no reason why we should not arrest any one or all of the resultant causes. Because we cannot now prevent the match from being made that lighted the lantern that in turn set fire to the hay, is it any reason why we should not extinguish the fire in the hay, and thus save our barn? Undoubtedly some symptoms are the manifestation of nature's efforts to cure, but it does not follow, therefore, that they do cure or tend to cure. They may be highly detrimental. Nature's forces, obstructed in one direction, naturally flow towards the point of least resistance, and from being preservative and constructive, they may become destructive. Health consists in a ready and willing obedience to nature's authority of every part of the body, from member to minutest cell. While this loyal state of healthful acquiescence continues nature finds it necessary to exercise but a small part of the power vested in her, and the functions of the whole complex government are carried on without friction and with the smallest possible expenditure of force. This is the "*Vis Naturæ*," quite sufficient in times of peaceful obedience. It is different, however, when the forces of dissension and destruction, whether arising in the body or assailing it from without, threaten to overturn the peaceful government of nature. She at once brings to her defence her reserve powers, drawn from every available source. She exercises all the power vested in her to maintain her authority, and the potential energy in drugs is as much a legitimate resource of nature in overcoming the insurrection in the body as the latent energy in gun-powder and dynamite when used by a government to repel a foreign enemy, or in internal dissension to compel obedience to rightful authority. These are the "*Vis Medicatrix Naturæ*"—the reserve powers of nature.

The science of medicine will appear a barbarous jargon only so far as we fail to comprehend its principles and the grand truth that we ourselves are a part of nature, and that inhering in the developed human mind there is a power which is destined to disclose all truth and bring order out of chaos.

With reverent spirit, though with honest pride,
That thou art part of nature, here abide,
Midway between the two extremes
Of those who think they're more and those to whom it seems

That they are less than nature.
Here thou may'st hope to happily escape
Some of the sad errors that we sometimes make
When, fired by pride, puffed up by self-conceit
And unsuspicious that we are part of nature,
We make ourselves officious,
Dictate to nature and oppose her will,
Incite her forces to rebellion, and instead of curing—kill!
We then are like an abscess, boil or wart,
An inflamed spot, excrescence of some sort,
The very things we claim to cure,
And caricatures of nature sure,
No more to be commended, one deficient
In self-appreciation, who thinks he's nothing—nature's all sufficient;
For such a one is just as good as any palsied limb or part;
His nerves insensate, he feels not the quickening impulse of great nature's heart,
His sluggish brain refuses to transmute
The thoughts of nature and to action suit.

DISCUSSION.

Dr. O'Hagan thought the paper a most admirable one, and one that was likely to awaken much thought among the members of this body. It seemed to be a protest against over-medication and also against the do-nothing sort. One of the many errors into which young graduates are likely to fall is an over-confidence in drugs, which is often fraught with disaster to their patients, and brings them, in time, to distrust the value of drugs. On the other hand, it is equally reprehensible for the medical man to sit down and do nothing, trusting altogether to nature. While nature is sometimes a good mother, she is not always a kind step-mother. In the treatment of symptoms it is an important matter that they be interpreted in their true meaning, for by them we get to the bottom of the disease. They enable us to remove the obstructions to the proper and normal performance of the functions of the different organs. When to stop giving drugs is not learned by rule, but by experience.

THE PHYSICIAN IN RELATION TO COURTS OF JUSTICE.

Report of the Chairman of Section on State and Legal Medicine.

By S. J. Montague, M.D., Winston, N. C.

Read before the Medical Society of North Carolina, Raleigh, May 9th, 1893.

In looking for a subject of interest in the department of State and Legal Medicine, I find two living and ever-present conditions confronting us—matters which affect and should interest every physician in the State, whether he practice in the largest city or in the most remote country district, whether he keep up with the latest information and fashions of practice, or be content to practice as he graduated, he should, for his own comfort and well-being and the honor and dignity of his profession, know something of his duties and privileges in a court of law. My reason for bringing these matters before the Society is that in certain instances the duties are so ill-defined by practice, and the priviliges are so few, that I wish the earnest consideration and discussion of the conditions and expression of opinions in regard thereto.

The first condition to which I would call your attention is that in this State a communication, even of the most sacred and private nature from patient to physician, is not privileged. Privileged communications are those which, on grounds of public policy, courts decline to receive for the reason that their admission would entail greater mischief than their rejection, because of some collateral evil to third persons or to society in general. Where lives the physician who has not had communications made to him by patients to enable him to prescribe intelligently for them, who would not for any consideration disclose the communications. Yet, in the present state of the law, any one refusing on the witness-stand to answer all questions, would be guilty of contempt of court and subject to fine and imprisonment at the discretion of the judge. I believe that there are not many members of this Society who would not prefer to suffer fine and imprisonment rather than stand before the community properly dishonored for disclosing confidential communications and exposing their patients to shame and to be the jest of the vulgar crowd. The idea very generally prevails that we have this needed protection at common law, the same as is enjoyed by attorneys; indeed, two well-informed lawyers told me that this was the law, so reasonable and just did it appear. Lawyers have enjoyed this immunity from time immemorial, but physicians, spiritual advisers and others have it only by special statute. The Roman law protected physicians against disclosure of confidential communications, and in France it is a crime for a physician to divulge them. Many States of our country have enacted statutes making confidential communications privileged, and, so far as I know, the enacting of these statutes, so necessary for the good of society, has not been resisted. The statute of New York is in these words: "No person duly authorized to practice physic and surgery shall be allowed to disclose any information which he may have acquired in attending any patient in a professional character, and which information was

necessary to enable him to prescribe for such patient as a physician or to do any act for him as a surgeon." This, with slight modifications, has been enacted in the following States and Territories: New York, Arizona, Arkansas, California, Idaho, Indiana, Iowa, Kansas, Missouri, Montana, Nebraska, Nevada, Ohio, Oregon, Utah, Washington, Wisconsin, Wyoming, Colorado, Michigan and Minnesota.

I find from "Greenleaf on Evidence" that the statutes of nearly all these States limit the privilege to such persons practicing physic and surgery as are duly authorized or licensed, thus very properly making a difference between regularly qualified physicians and irregulars, quacks and such like. It is held that these statutes extend protection also to personal representatives of deceased persons: "The purpose of the laws would be thwarted and the policy intended to be promoted thereby would be defeated if death removed the seal of secrecy from the communications and disclosures which a patient should make to his physician."

Consulting physicians and partners in the same office or practicing together in the same case, enjoy immunity under these statutes. Without the protection of a statute let us see how it would be with a physician called to see a woman bleeding to death after a criminal abortion, and what physician of much experience who has not had such cases? The patient, with danger of death impending, if the condition be not self-evident, makes a clean breast of the trouble to enable the physician to treat her to the best advantage, which having done, no matter in what way the case terminates, his next obligation is to report a crime to the prosecuting attorney or coroner, as the case may be, failing in which, he renders himself liable to prosecution for misprision of felony—concealing a crime. Who can contemplate with equanimity the physician, having finished his professional work, now putting on the character of an informer, and leaving his patient in a worse condition than when she called him? Aside from the code of ethics, founded on the golden rule, and which must govern as long as honor abides with physicians, no one who would do this mean act could live in a decent neighborhood. What, then, must be done? I feel there will be no doubt in any reasonable man's mind as to the course to pursue. Duty, humanity and innumerable well-made precedents say relieve your patient and hold fast against the world her confidences, but demand, for the sake of humanity, and not as a personal privilege, for the physician does not need it, that this common law injustice be superseded, as early as practicable, by the enactment of a prohibitive statute with proper penalties.

Having considered what a physician may not be allowed to disclose, it is now in order to discuss what he may say and the manner of giving testimony. As it is harder to open the mouth in wisdom than to keep silence, so this subject is more difficult than the preceding. Probably at no time does the average, conscientious physician appear at more disadvantage, and oftentimes have himself unjustly lowered in the eyes of the community than when on the witness-stand, exposed to the cross-examination of opposing counsel. From the nature of his calling the ordinary doctor is not prepared to stand the ordeal of the witness-

stand. Unused to controversy, rarely meeting his fellows even, in friendly discussion, and accustomed to giving arbitrary orders and being obeyed without question, he gets little or none of the friction so necessary to enable him to stand with quiet ease the onslaught of counsel whose reputation and the life of whose client may depend on the doctor's discomfiture. It not infrequently happens that physicians of ability fail to acquit themselves in court to their satisfaction, while quacks, from the nature of their business, trained to withstand attacks and criticism, often leave on the unprofessional mind a good impression.

As physicians may be and are called to give evidence in court the same as other people, it is only intended to consider them here in the character of experts. Expert evidence is defined as "that given by one expert and specially skilled in the subject to which it relates or is applicable, concerning information beyond the range of ordinary observation." From this definition it is evident that, while it might not be judicious or in good taste for all physicians to set themselves up as experts, yet all properly qualified doctors are liable to be called as witnesses in this character, and now commences the trouble and question which has vexed and harassed physicians, perplexed courts and confused juries, and no doubt has often brought discredit on expert testimony, both to the profession and to the laity The need of some change in the manner of procuring and giving this testimony is recognized, but as yet no remedy is at hand. That expert evidence is necessary for the proper administration of justice is admitted, and it is apparent that, without the help of skilled scientists, the detection of some of the most insidious forms of murder would be difficult, if not impossible. It appears that much study and thought, at various times, has been given to the matter of securing a better system than that which we have at present and which has been in vogue a long time, but whatever has been suggested is liable to abuses and dangers, as is the present system. Almost the first idea that occurs to most people thinking about this matter is the selection of the expert by the authorities connected with the case, who, it is assumed, would choose only the most competent, but granting the best of motives to the fairest-minded officer, it must be admitted that he is seldom competent to judge of expert qualifications, and it seems only just and fair to let parties to a trial have every chance possible, which they could not have if experts could only be chosen by the authorities, and especially is this true when it is considered how the authorities are constituted. So it seems that until a more perfect system is evolved or elaborated, we must continue to see and hear conflicting and distressing testimony of scientific experts. The trials recently in New York of Harris, a medical student, and Buchanan, a physician, both charged with, and convicted of, murdering their wives with morphine, have brought the matter of expert medical testimony prominently before the world. In the case of Harris, it seems that the prosecution relied principally on the well-known physiological effects of the drug, while in the case of Buchanan the reliance was mainly on the ascertained presence of morphine in the body, which was declared to be present by no less specialists than doctors Witthaus and Doremus. The defence then introduced Prof. Vaughn and Dr. Scheele, who testified and proved by actual illustrations

before the court and jury, that color reactions identical with those found by the experts of the prosecution could be produced from ptomaines resulting from the decomposition of animal matter, and consequently that the prosecution had not proven the existence in the body of the deceased of morphine. They also contended that only the actual isolation of crystals of morphia in a decomposing body would be sufficient evidence of its presence. The prosecution experts were, it seems, unhorsed, and had the color reactions for the proof of the presence of morphia been all, no doubt there would have been a failure of conviction. Dr. Scheele stated that these color tests used by the experts of the prosecution were not to be depended on, and were not now accepted by the most advanced Germans. This, however, is no new theory or statement, for certainly as far back as 1878, in the trial of Chantrelle, in Edinburg, for poisoning with opium, objection was made to the expert testimony that no opium was found in the body of the deceased, which was admitted, but evidence of morphia was found by color tests on the stained sheets and in vomited matter, but no crystals were found. It was held then, and is held now, by the best writers on Medical Jurisprudence that the color reactions for the detection of morphine are more valuable than the slender prismatic crystals found under these circumstances which have no peculiar or definite form, and must be proved at last to be morphia, if they are, by these very color reactions. At this trial the prisoner, Chantrelle, was convicted and executed, the court regarding the objection to the color reaction test as frivolous, and setting it aside. See "Taylor's Medical Jurisprudence, Eleventh American Edition, 1892." The ptomaine theory had not then attained to any notice, nor is it now accorded the place it deserves in standard writings, if Prof Vaughn's experiments are well founded, which they seem to be, and at any rate the prominence and importance attached to them at recent trials, and other places demand that thorough investigation by competent chemists should be made and the claims either disproved or accepted and estab lished. The contradictory evidence of scientific experts of international repute inevitably discredits such testimony, confuses medical men and imperatively calls for a revision of the analytic processes for the detection of organic poisons. No doubt the agitation of these matters will arouse the chemical talent of the profession, and before long definite and certain procedures to meet these cases will be established.

Probably the first case the average doctor will be called to give expert testimony in will be a coroner's inquest, and there is reason for believing that the dignity and importance of this legal prooceeding is not sufficiently appreciated. It should, however, be borne in mind by the physician giving testimony at these inquests (it may be only in the presence of ignorance and oftentimes excited people) that his *words* are taken down, and he may be examined on the same at a higher court and in the presence of the most learned lawyers and physicians. If it is thought that a death has not been due to natural causes, the medical witness should refuse to give an opinion without an autopsy, and even then, when a sufficient cause of death is not found, as a conjectural opinion is liable to lead to unpleasant responsibilities. It is thought best for medical witnesses not to

quote standard writers, but to confine themselves to facts within their own knowledge and experience. Should he quote so-called authorities, the other side would be allowed to quote in rebuttal, and a controversy of books without end might be brought on. A judge can at his discretion rule out all medical books as evidence. Medicine being a progressive science, the authors of the best text-books are not recognized as authorities, except by courtesy and common consent of the profession, as long as they serve best the purposes for which they were intended. Thus, what is good authority one day may not be the next, not having in the profession any corporate body to make and unmake standards. A physician, in giving evidence before a court, should not base his opinion as to the cause of a death on any one fact, unless that one be amply sufficient, but should take all of the known circumstances of the case into consideration—symptoms before death, chemical analysis, autopsic appearances, as well as the moral aspect. All these working in harmony to the same conclusion would form a good basis for an opinion as to the cause of a death. As a matter of course, the expert is looked upon as more than an ordinary witness. More respect and consideration is his due and more responsibility attaches to him, consequently his demeanor should accord with this idea. Called to testify to the truth, to the best of his knowledge and ability, he should be well prepared on his subject in all its bearings, and refuse to be led into matters with which he is not perfectly familiar. It would seem that for witnesses occupying the dignified and responsible places of scientific experts intentional ex-parte testimony would be out of place, and there is good reason to believe that when men are governed solely by the nobler instincts of human nature, desiring truly in trials to discover only the truth, that much of the reproach and perplexity of scientific expert testimony will have vanished.

My object in presenting this subject to the Society is to draw attention to the unsatisfactory standing and discredited evidence of physicians in the courts, in the firm belief and hope that, once realized, the profession will be equal to the occasion, and that there will be a desire for reform promoted and a higher stand taken for the rights, the honor and the good name of a profession whose highest purpose is to benefit humanity.

A REMARKABLE CASE OF CEREBRO-SPINAL MENINGITIS.

By E. Burke Haywood, M.D., Raleigh, N. C.

Read before the North Carolina Medical Society, Raleigh, May 9th, 1893.

The first reported cases of epidemic Cerebro-Spinal Meningitis in North Carolina were in 1856.

From 1862 to 1864 the disease assumed a very malignant type. It was observed and reported by that distinguished North Carolina physician, Dr. Bedford Brown, now of Alexandria.

Sporadic cerebro spinal meningitis is never primary, but is always either a complication of some other disease or traumatic in its origin.

C. D., aged 13, a healthy, intelligent boy, was taken sick on June 24th, 1892, with the usual symptoms of typhoid fever. Nothing remarkable occurred in his case until the second week, when it was complicated by cerebro-spinal meningitis. He was seized by excruciating pain in the head, back and limbs, vomiting, extreme restlessness, irregular pulse and respiration. He grew worse rapidly. Eruptions appeared on his skin, petechiæ, vibrices and extensive ecchymoses. Soon the spinal muscles were contracted rigidly; his head was drawn backwards; there was well-marked opisthotonos and trismus; his abdomen was retracted and concave, like the interior of a boat. The daily details of his symptoms and treatment during the progress of his illness, of more than four months duration, would be uninteresting to this audience. I shall therefore give an abstract from my notes of the most prominent features of his case. He had clonic convulsions, tetanic spasms, partial paralysis of the muscles of deglution, urination and defecation, photophobia, oscillation of the eyes, strabismus, ptosis, dilatation of the pupils, followed by blindness, deafness and inability to utter any sound.

Believing that the above symptoms were caused by a plastic or purulent exudation in the meshes of the cerebro-spinal pia mater, and consequent pressure of this exudation at the base of the brain upon the nerves and blood-vessels that supply these organs, I put him on the following treatment: Cold to the head and spine by means of cloths dipped in ice-water, hot foot-baths, internally bromide of potash, grs. 10, and squills, fluid extract of ergot, ♏xv, in water, every four hours day and night; later on bromide of potash, grs. xv, and iodide of potash, grs. v, in water, every four hours day and night, and antipyrine when the temperature required it.

One of the greatest difficulties in his treatment was the giving of water and nourishment; he would resist violently the taking of either as soon as the vessel containing it touched his lips.

For nourishment he took Wyeth's meat juice, liquid peptonoids with cocoa, milk toddy, wine whey, soft-boiled eggs and strong meat soups.

He gradually improved, but was unable to walk about until after five months from the time he was taken sick.

The most remarkable features of his case were, that he was totally deaf, dumb and blind for seventy-nine days. He is now physically and mentally well, with complete restoration of sight and speech and partially of hearing.

In the management of this case I had the valuable advice and assistance of my son and partner, Dr. Hubert Haywood.

REPORT ON PRACTICE OF MEDICINE.

By E. M. Summerell, M.D., Mill Bridge, N. C.

Read before the Medical Society of North Carolina, Raleigh, May 9th, 1893.

In presenting this paper for your consideration, there is little claim to originality. In a few instances the result of my own observations are recorded. My idea is that the compass of this report is only intended to furnish the members of the Society with a brief resume of those advances in the treatment of disease since our last meeting that seem to the reporter to be of the most importance to the profession.

The number of diseases known to our profession now runs into the thousands. Many of these are curiosities of medical literature, possessed of names conferred arbitrarily by their differentiators. Others are little known save to the specialist. Still others are not liable to be met with except by the physicians of other climates than our own. Separating the above classes from the whole number, there is still left a large number with which we should all be familiar. The limits of this paper, however, prevent my calling your attention to more than a very small number of diseases. These have been selected because they have elicited the most attention in the medical literature of the past twelve months.

"Doctors differ" a saw! the truth of which the whole medical profession are day by day reminded. Why do they differ? Because no two individuals have minds of exactly the same calibre—because no two ailing people have the same constitutions or present the same symptoms. But "doctors differ"! The public say so; and the statement carries with it a knowing smile—a certain degree of opprobrium, implied or expressed. Why? Because the public has been allowed to regard the profession from the standpoint of the scoffer and reviler—because of disunion, personal dissensions between individuals or schools of those belonging to our profession.

Though more than 2,000 diseases have been differentiated by skillful diagnosticians in the various branches of medicine, though the list of drugs and of medical appliances are well-nigh innumerable, and are being added to at the rate of thousands per annum, and though the treatment of all diseases, recognized in their causes and effects, is becoming every year less empirical and more thoroughly based on scientific data, yet ignorance of the grossest character stalks rampant through our midst, intimately associated with charlatanry, quackery and the mad desire for gain.

The public delight in being humbugged. Sooner or later they recognize this to be the case with themselves, find greater delight in seeing others in the same condition, and naturally resort to ridicule and sneers as the best means of dissociating themselves in the eyes of others from the causes of their own self-degradation.

An experienced physician, noticing the awkward and baseless efforts of some tyro in the science, makes some careless remark, some idle, half-witty nothing,

harmless in itself in coming from him as a member of the community. This insignificant statement travels, but soon becomes so weighted with embellishment, that finally, when it reaches its subject, it has lost all of its original character. The ignorant leech or what not, stung by the more or less merited application of what he has heard, resorts to that commonest of all weapons of the "morally stunted"—"defamation."

The public follow the drum and horn, unable, for the most part, to distinguish the difference between noise and harmony. This result, to a greater or less degree, has occurred in the experience of all of us. The remedy is simple. It lies with us. It is the formation of such associations as is here assembled, bound together by such rules of medical procedure toward each other and to the public as the wisdom of years has demonstrated to be best adapted to serve the purpose.

Pneumonia.—Two types of this disease present themselves to our notice, the sthenic and the asthenic. The treatment of the two forms present radical differences. In sthenic cases depressant remedies are to be selected. The use of cardiac sedatives, aconite, veratrum, etc., still has many friends, but the tendency is to discard them. Venesection is admissible in certain cases. The best results seem to have been reached through the persistent use of cold. The application is made by enveloping the chest in towels wrung out in ice water, repeated as often as the towels become warm by the body heat. This is to be kept up until the temperature is reduced and diaphoresis occurs—usually for eighteen to twenty-four hours, if the disease is seen in its early stages. This treatment in the form of the disease above referred to is almost always followed by a decided amelioration of the symptoms. It is again to be resorted to when there seems to occur a reaccession of the serious symptoms. If a calmative should be deemed necessary, chloral rather than opium should be administered.

In the asthenic type, cardiac stimulants should form the basis of our treatment—digitalis, strophanthus and caffein. Strophanthus is to be used rather than digitalis, since the former acts more directly and solely on the heart-muscle, and is, moreover, less apt to derange the stomach. But these drugs must be given until their specific action is apparent—until the pulse is reduced to 60 or 70 beats per minute—and *pari passu* it will be noticed that the temperature will decline. To bring about this result, it is wonderful what amount of the stimulant will be borne by the system with no indication of either cumulative or toxic effect. Chloral is again the calmative agent, should it be deemed wise to employ a drug of this character.

Typhoid Fever.—Wonderful results have followed the use of cold in this fever also, both in America and in Europe. The mode of application is preferably by bath, though the pack is also very efficacious. The asserted dangers arising from so much physical disturbance of the patient have not been realized. The application of the cold should be resorted to whenever the temperature reaches 102-5° F. The benefit obtained is most marked in the alleviation of the nervous phenomena present. Quinia is of no use either as an antipyretic or as a stomachic tonic. The disagreeable taste in its effect upon the appetite causes the possible good

effects to be more than counterbalanced by the objectionable qualities. If, therefore, an antipyretic or a tonic be desired, it is better to choose some other drug. Turpentine remains the remedy *par excellence* for tympanitis.

Much has been written and will continue to be written concerning the diet in this disease. The writer calls especial attention to the following occurrence in his own practice: An outbreak of typhoid fever occurred in a household comprising 20 or more individuals. Of these 7 only drank sweet milk habitually. The others never used sweet milk, but drank butter-milk instead. Of the 7 above referred to 6 had well marked attacks of typhoid fever, and the early history of the seventh individual rendered it exceedingly probable that he had suffered from the disease in youth. Lactic acid has well-known germicidal properties. Lactic acid is almost always found in butter-milk. It would, therefore, appear that the formation of lactic acid in the milk had some inhibitory action on the *materies morbi* of typhoid fever. And is it not reasonable to suppose that this inhibitory action may be encouraged in the intestines by the administration of considerable quantities of butter-milk? Again, certain cases have occurred where the stools present positive evidence that sweet milk taken into the stomach gave rise to the formation of hard curds that passed through the alimentary canal without further digestion. When butter-mllk was administered these hard curds no longer appeared. These facts, considered in connection with the acidity so grateful to the feverish sufferer, seem to me to render butter-milk a most valuable, if not the most desirable, form of aliment for those suffering with this disease.

Diarrhœas of Children.—In the treatment of entero-colitic diarrhœa it is best to precede the administration of drugs by the employment of injections of ice-water. The benefit to be derived consists in cooling the fever, bringing repose, lessening congestion, cleansing the bowel of all irritating masses containing bacilli, ptomaines, etc., all of which are liable to reabsorption.

Opium has been almost supplanted by salol. This latter drug is especially antagonistic to bacilli, even to those of the most vital kinds. Carbolic acid, nitrate of silver, calomel in minute doses, all have their advocates in being of great benefit in these troubles. In gastro-enteritis and the chronic form of entero-colitis the best results have been obtained by the employment of salicylate of bismuth.

Malaria.—It has long been desired to secure a drug with the specific action of quinia as regards this condition, and without its objectionable qualities. Methylene blue is on trial as filling this requiremeut. Many reports are on record, the great majority of which favor its more extended use. No unpleasant symptoms have followed its administration save the blue color which it imparts to the urine.

Diphtheria.—The best results are now obtained in this disease by the employment of hydrogen peroxide. Failures in the use of this drug are chiefly ascribable to unskilful handling and to impure or unstable samples. The strength of the solutions for application vary from 8 to 32 p. c. Weaker solutions have apparently proved efficacious as a prophylactic.

The exhibition of turpentine in larger doses (ʒ ss. to ʒ j.) than are usual, finds

some advocates. Excellent results have also been claimed as due to the local application of methyl violet.

Cholera—The possibility of invasion by this scourge to the human species renders it proper, perhaps, that some reference should be made regarding the treatment.

It has been abundantly proven that cholera is intimately associated with the presence of coma bacilli, if not caused by these microbes. The treatment offers one of the most promising fields for the proper and scientific use of intestinal antisepsis. The far more probable mode of entrance into the system by the coma bacillus is through the alimentary canal. It is, therefore, there that we are to combat this disease with the best assurance of success. The simplest means are by lavage and entero-clysis. The former is hardly practicable, but the latter is of the greatest service. Many drugs have been used with the idea of disinfecting the whole alimentary canal. Large doses of calomel and castor-oil have been exhibited with the idea of subjecting the mucous membrane and every portion of the contents of the intestinal canal to the germicidal action of the mercurial, and to hurry the disinfected substances out of the body. Hydrogen peroxide in varying strength (1 to 500 to 1 to 2000) has been used for the same purpose, though, owing to its liability to decompose in the upper bowel, it is necessary to give it by the rectum as well as by the mouth. Cold water, which has been previously boiled, to which .50 p. c. of chloroform has been added, given by the rectum, has been found efficacious in the destruction of the bacilli. Salol also has been found to be intensely hostile to these microbes, and its further trial seems fully warranted.

In the collapse following the colliquative serous diarrhœa the vascular injection of a saline solution containing the chloride and sulphate of sodium has found much favor. Ergot or ergotine combined with lactic acid has also been found an excellent combination for the treatment of the excessive diarrhœa.

REPORT ON THERAPEUTICS.

By C. E. Hilliard, M.D., Asheville, N. C,

As you are all aware that it is impossible for one to present for your consideration a paper upon the subject given me that is purely original in character, without first having had the time, opportunity and suitable prerequisites for experimental observation other than that which comes to us all in our every-day experience, I must, in the beginning, implore your merciful and patient indulgence while I read for you, in part, that which you have already obtained from the current medical literature of the day. Dr. David Cerna, in his preface to "Notes on the Newer Remedies," truly says: "Neither the student nor the general and busy practitioner, without neglecting other and important matters, can possibly keep abreast of the times in regard to the science and art of modern therapeutics. The almost daily appearance of new works on pharmacology and therapeutics shows what the spirit of the age demands, and certainly the market cannot be too full of such books, if the immense amount of work that is being constantly done in the laboratory of scientific medicine and in the clinical ward is taken into consideration." There can be no doubt but that during the past year many valuable therapeutic agents have been added to the already swollen list of new remedies. To familiarize ourselves with each and everyone that makes its appearance, its physiological action and special adaptation to individual cases, is a matter of great difficulty, in that, having tried one and another where we had supposed them indicated without obtaining the hoped for result, and finally striking upon one that, so to speak, "acts like magic," we are more or less apt to prescribe it in every case of like character, to the exclusion of other remedies equally worthy of exhibition. My experience of six years in the prescription department of a popular drug store in a certain town in this State, convinced me of the fact that doctors are prone to get into "ruts" in the way of prescription-writing. Not that I mean this as a plea for the abandonment of the old old and tried, but rather as a suggestion that the newer remedies be made a matter of constant investigation and experiment, until a thorough knowledge of the merits of each can be fully estimated and properly applied. Particular artention should be devoted to the physiological action of both the old and new remedies, and every effort should be made to present the therapeutic advances in medicine in a thoroughly practical light, for, no matter how beautifully the theories may have been drawn, unless the underlying principles of those theories can be made of absolute and practical value at the bedside, in the treatment of disease, and found to hold true in the vast majority of instances where they appear to be applicable, such theories, and the remedies based thereon, will be discarded, or altogether ignored, and classed as worthless by the truly scientific and accurate practitioner.

Quality of Drugs.—Dr. R. G. Eccles, in *Brooklyn Medical Journal*, says of pepsin; "If the druggist puts in the best, it will be forty or fifty times stronger

than the poorest." If this be true, it proves that it is the duty of the physician to specify the manufacturer's name, not only when he wants pepsin, but any other preparation made by a reputable house, and then to see to it that he gets exactly what he prescribes.

Modern Dosage.—The method of administering medicines as far as the dosage is concerned has changed very materially in the last few years. The modern physician does not prescribe wine-glassfull doses of nauseous decoctions and infusions to be repeated at frequent intervals, nor administer pills a quarter of an inch in diameter. The dainty tablet, triturate, pillet or deliciously aromatic cordial, prepared by the physician's benefactor, the manufacturing chemist, has rendered this unnecessary. The progress in pharmaceutical art and discovery within the past few years has been very great. Many of the active principles of drugs have been isolated and better methods of preparing remedies discovered, so that the enormous and disgusting doses of medicine prescribed by our fathers in Medicine have long since been abandoned by the modern physician, to the joy of his patient and his own increased success.

Antipyretics, Anti-Neuralgics, Anti-Rheumatics, etc.—The number of new remedies that have been presented during the past year under this heading is almost as appalling as some of their chemical names. In a way, they might be compared to as many young doctors just starting out. Some of them fulfill the most sanguine expectations of their friends, while others of us fail to materialize. Of this class I shall only mention a few, and briefly :

"Phenyl-urethan, euphorine, should not be confounded with europhen. It occurs in crystals slightly soluble in cold, more so in hot water, but soluble in all proportions in ether and alcohol. Therapeutically it is an energetic antipyretic without any danger, but, indeed, a beneficial effect, upon the general condition. The dose is about 7½ grains, which will reduce the temperature, commencing in from 20 to 40 minutes, one to three degrees (Cent.), and this defervescence lasts from four to twelve hours. The mechanism is like that of other antipyretics, by vaso-motor dilatation. According to Santoni, it is an anti-rheumatic in from 15 to 22-grain doses. As an analgesic the results have been variable, with the exception of nervous headache. As a local antiseptic in inveterate varicose ulcers, as a 10 p. c. ointment, Oliva has had satisfactory results. In dermatological practice, Peroni has found that it presents marked advantages over iodol, sozo-iodol, aristol resorcin and chloral hydrate, in that it arrests suppuration, destroys odor, stimulates granulations and prevents the diffusion of virus from venereal ulcers. Internally, it can be administered in wafers, but, on account of the burning sensation which it produces in the stomach, these should be avoided. Better is it to dissolve it in wine. For external use, the sharp crystals should be finely powdered or dissolved in alcohol, 10 to 50 p. c."—*Am. Jour. Med. Sciences.*

Salophen.—Dr Caminer, from the observation of the use of this remedy, has not found that it disarranged digestion, but that only in the intestine is it decomposed into its constituents, salicylic acid and acetyl-paramidophenol. He administers it in 15-grain doses every two hours up to the daily amount of 90 grains in acute articular rheumatism. It produces marked results upon pain,

redness and swelling, so that within six to ten days the patient is free from pain, nor has he observed any relapses. As acetyl-paramidophenol is a decomposition product of phenacetine, to which, with probability, may be ascribed its analgesic properties, we may expect that the compound will relieve pain more promptly than either salicylic acid or phenacetine alone. He records its successful use in habitual headache, tri-geminal neuralgia and its failure in sciatica. In hemicrania relief follows its administration during the attack, but the interval is not hastened. He reports no toxic effects in the cases under observation."—*American Journal of the Medical Sciences.*

"On the comparative actions of antipyrine, phenacetine and phenacoll on the circulation and heat phenomina, Drs. David Cerna and Wm. S. Carter record their conclusions as follows :

1. Antipyrine, in small and moderate amounts, produces a rise in arterial pressure, the stimulating effect being due to an action on the heart.

2. The lowering of the pressure by large or toxic doses is due similarly to a depressant effect upon the cardiac organ. The remedy does not seem to influence the vaso-motor system.

3. Antipyrine causes an increase in the pulse-rate through paralysis of the cardio-inhibitory centres. The secondary decrease in the number of pulsations is of purely cardiac origin, the drug exercising a depressant effect upon the heart itself.

4. In excessive doses only it changes the hæmoglobin of the blood into methæmoglobin.

1. Phenacetine, in moderate doses, causes a rise in arterial pressure by acting upon the heart and probably likewise by a stimulating influence exercised on the vaso-motor system.

2. The reduction of pressure by the drug in large doses is mainly of cardiac origin.

3. It increases, in small doses, the force of the heart by direct action.

4. It increases the pulse-rate chiefly by cardiac stimulation, and possibly also by influencing the cardio-accelerating apparatus.

5. It reduces the number of pulsations, especially when given in large quantities, primarily by stimulating the cordio-inhibitory centres, and later by a depressant action upon the heart.

Phenocoll.—Phenocoll, in ordinary amounts, has practically no effect upon the circulation.

Large doses diminish the blood-pressure by influencing the heart.

Phenocoll reduces the pulse-rate by stimulating the cardio-inhibitory centres. It then increases the rapidity of the pulse by paralyzing said centres. The final diminution is of cardiac origin.

Upon the blood itself phenocoll has no action.

In their studies concerning heat phenomena the following results were reached :

Antipyrine, phenacetine and phenocoll all fail to produce any effect on the heat functions of the normal animal.

Antipyrine produces a decided fall of temperature in the first hour after its administration in the fevered animal. This reduction is due to a great increase in heat dissipation, together with a fall in the heat production.

Phenacetine, both in septic and albumose fevers, produces a very slight fall of temperature during the first and second hours after its ingestion by the stomach, but the greatest reduction occurs the third hour after its ingestion. The fall of temperature results chiefly from a decrease in heat production, with a slight increase in the heat dissipation. The increase in dissipation is not as great with antipyrine. Probably the delayed action of the drug depends on its insolubility.

Phenocoll causes in fever a very decided fall in temperature, which occurs the first hour after the administration of the drug by the stomach. This reduction is the result of an enormous diminution of heat production, without any alteration of heat dissipation.

Their experiments with antipyrine are in accord with the results obtained by Martin, Wood, Reichart and Hare, together with Destree, and they have reached the conclusion that antipyrine reduces the temperature by a decrease in heat production, and that heat dissipation also falls with the production.

In their experiments with antipyrine the composite curve shows the rise of heat dissipation. They believe, therefore, that this phenomenon is effected through a thermatoxic, rather than through a thermogenic mechanism. They further believe that phenacetin and phenocoll reduce the temperature by a decrease in the heat production through their action on a thermogenic nervous centre. The fact that all drugs here studied fail to produce any effect on the normal heat function, proves that they affect these functions through the nervous system. Probably the fact pointed out by Hare in his excellent essay, that many investigators do not take into account other circumstances, such as tying animals down and confinement in a box, may explain many of the results obtained by some observers in the normal animal.

In concluding this study, they think they are justified, judging from the results of their experimentation, in saying that of the three drugs in question, the safest for practical purposes, especially as regards an action upon abnormal temperatures, would be phenocoll. Phenacetin is slow, on account, no doubt, of its insolubility, and is comparatively feeble as an antipyretic. Antipyrine, it is true, is soluble and prompt in reducing feverish conditions, but its action upon the circulation, particularly upon the heart, is so pronounced, even when administered in therapeutic doses, that it is, for this reason, a dangerous substance to use. Phenocoll, on the other hand, is readily soluble, rapidly absorbed, and, undoubtedly, promptly eliminated. Its power to reduce abnormally high temperatures is very decided, and it does this in therapeutic doses, without depressing the circulation. Phenocoll, therefore, would seem to be superior to antipyrine and phenacetine as an antipyretic."—*Therapeutic Gazette.*

The Influence of Some of the New Analgesics in Increasing the Susceptibility to Cold.—"While it is true that antipyrine, acetanilide and similar compounds were first introduced into medicine for the purpose of reducing fever temperatures, it has never been generally recognized by experimental or practical therapeutists

that they are capable of reducing the normal bodily temperature to any extent, and for this reason many physicians have administered these remedies, since they have been employed so largely for the relief of pain, with little regard to the question of exposure of the patient to cold. We believe that it is important that this influence of these analgesics should be more widely recognized.

While it is true that they do not reduce normal bodily temperature, it must be remembered that both scientific and practical research has proved them capable of decreasing the production of animal heat, and we can therefore readily understand that their administration to a person who is about to be exposed to cold might readily result in his suffering from what we ordinarily call a "cold," by reason of the fact that his heat centres fail, under the influence of the drug, to manufacture the increased amount of heat required by the body, owing to the exposure. For this reason careful questioning will always develop the fact that the patients exposed to cold after taking these drugs suffer from a considerable degree of chilliness, and if they catch "cold" readily, develop more or less severe congestion of localized areas, which may pass away in a few hours, or develop into acute attacks of coryza, laryngitis, bronchitis, or even pneumonia.

It is probable, too, that these drugs not only cause the patient to cath cold by reason of their influence over the nervous mechanism governing the production of heat in our bodies, but also that their influence over the vaso-motor system aids in producing this result. Not that the drugs necessarily produce vaso-motor depression, but rather that in their action they render the vaso-motor system less active in adjusting itself to the circumstances with which it is surrounded. Thus the function of the normal vascular system, when the exterior of the individual is exposed to cold, is to cause peripheral vaso-motor contraction, with resulting internal congestion. This prevents the patient from becoming chilled, and allows the blood to remain in the warm, well protected portions of the body. If this does not take place, the blood in the peripheral capillaries becomes chilled, and general chilling of the surface occurs, so that the actual amount of heat in the body is decreased, with more or less disastrous results. As we have said before, we believe that the employment of these antipyretic and analgesic drugs for the relief of various forms of pain markedly increases the susceptibility of patients who may be exposed to cold."—*Therapeutic Gazette.*

Papoid.—"The uses of papoid in treating disorders of the digestive organs may be summarized somewhat as follows:

I.—In actual or relative deficiency of the gastric juice, or its constituents.

1. Diminished secretion of gastric juice as a whole.
   Apepsia.
   Anæmia and deficient blood-supply.
   Wasting diseases.
2. Diminished proportion of pepsin.
   Atonic dyspepsia.
   Atrophy of gastric tubules.

3. Diminution of hydrochloric acid.
   Achlorhydria.
   Carcinoma.
4. Relative deficiency of gastric juice.
   Over-feeding.

II.—In gastric catarrh.

1. Where there is a tenacious mucous to be removed, thus enabling the food to come in contact with the mucous membrane.
2. Where there is impaired digestion.

III.—In excessive secretion of acid.
To prevent duodenal dyspepsia.

IV.—In gastralgia, irritable stomach, nausea or vomiting.

V.—In intestinal disorders.

1. In constipation due to indigestion.
2. In diarrhœa, as a sedative.
3. In intestinal worms. (This claim the writer has not personally verified, but as the intestinal mucous which shields the worms is removed by papoid, it is easily understood that their removal would naturally result after its administration.)

VI.—In infectious disorders of the intestinal tract.

1. Where there is abnormal fermentation; by its antiseptic action, which may be heightened by combination.
2. Where there are foreign substances present, its detergent effect may be utilized in cleaning out the debris from the intestinal contents by digestion.

VII.—In infantile indigestion; here papoid not only readily peptonizes cow's milk, but the resulting curds are also soft and flocculent, resembling those of breast milk.

The dose of papoid, ordinarily, is one of 2 grains, but 5 grains or more may be used, the only objection being that of useless expense and waste, except where very prompt effects are desired, in which case even larger doses of the remedy may be administered. In case of obstruction of the œsophagus by an impacted piece of meat and gristle—such as has been recently reported—a paste of papoid and water, with some soda, would produce softening in a very few minutes."—Dr. Frank Woodbury, *N. Y. Medical Journal.*

I am compelled by a sense of duty, as a member of this Society, to present this paper. No one is more conscious of its short-comings than myself, in that progress in therapeutics has been so great, while here it has only been brought

to your notice in a rude and fragmentary way. "Every new treatment, every fresh drug, every medicine that is discovered, is one more drop in the great ocean of knowledge, segregated that we may study it for the benefit of mankind. In it there is good and evil; but if we approach it with reverent earnestness and study that may know, we can assure ourselves that we are helping on the great science to which we have devoted our lives.

The amelioration of the physical ills of man is the end and aim of our most noble profession, and it is pleasant to remember that reward shall surely come to the physician who will work."—CYRUS EDSON, *N. A. Review*, April, 1893.

REPORT ON PATHOLOGY AND MICROSCOPY.

By W. T. Pate, M.D., Gibson's Station, N. C.

In presenting this report we have kept constantly in mind the fact that the complicated technique of pathology requires too much time for a physician to be both practical pathologist and practical physician, and, while disclaiming originality, we have endeavored to mention a summary of such advances made since this section was last reported as we believed would be of most interest to our Society. Our profession has reason to be proud of her pathologists and their achievements; but the most sanguine among us have ceased to look for a sudden revolution in medical science; the most conservative have been brought to acknowledge its rapid progress, and all are learning the lesson of patience, so necessary in scientific research. The gross morbid anatomy of nearly all diseases has been described by classical authors with very little variation for years, consequently most of the work done by pathologists lately has been directed to the etiology of infectious diseases and the manner and means by which the anatomical lesions accompanying them are brought about.

As far as human pathology is concerned, the only recent important discovery of a pathogenic micro-organism bearing causal relation to disease, is that of the bacillus of influenza by Pfeiffer, of Berlin. But much work has been done in developing and establishing the pathology of other infectious diseases.

The constant presence of a special form of bacteria in all cases of a disease capable of isolation in pure cultures that produce the identical disease by inoculation into healthy, susceptible animals, is considered absolute proof that the disease is of bacterial origin. The following diseases of human beings are now embraced in the list fulfilling the conditions of absolute proof: Tuberculosis, croupous pneumonia, diphtheria, cerebro-spinal meningitis, erysipelas, anthrax, glanders, tetanus, actino-mycrosis, acute ulcerative endocarditis, gonorrhœa, Asiatic cholera, influenza, and various pyæmic and septicæmic diseases.

There are other diseases that are doubtless caused by micro-organisms, but all conditions of absolute proof have not been obtained. The bacillus of typhoid fever has been isolated in culture, but the disease has not been produced experimentally in animals. The bacillus of leprosy, the spirillum of relapsing fever, the plasmodium of malaria and the amœba of certain forms of dysentery have not been satisfactorily isolated in culture, but they are always present in these diseases respectively, and their causal relation is now generally admitted.

Nothing is known definitely as to the specific cause of syphilis, small-pox, measles, scarlet fever, yellow fever, whooping-cough, typhus fever and a number of other infectious diseases.

The scope of this report forbids our attempting more than mentioning the recent advances and present status of some of the most important of these diseases.

Tuberculosis.—Since Koch's discovery and demonstration of the tubercle bacillus in 1882, little essential has been added to our knowledge of the disease.

The mode of invasion has claimed important consideration recently. Inheritance as a mode of infection has been established. Baumgarten thinks that hereditary infection may occur in three ways: infection of ovum from the maternal tissues or fluids, and infection carried by the fructifying sperm. Infection from the mother through the placenta is the only way, however, that has been proven experimentally. The bacilli being inherited, may either die, begin their growth at once, or simply retain their vitality and take on destructive growth when the cells of the body have been rendered less resistant by intercurrent affections or bad hygiene.

Invasion by inhalation of dried sputum from phthisical patients continues to be considered the most prolific source of infection.

Invasion by the alimentary tract is produced through ingestion of milk and flesh of tuberculous cattle.

Invasion by the skin has been recorded in women who, with abrasions on their hands, wash linen soiled by sputum of tubercular patients, and also, in a similar way, those who handle tubercular tissues for other purposes.

Ziehl's solution is the most generally used at present for staining the tubercle bacillus. It stains as promptly as the aniline-fuchsin formerly employed, and has the merit of keeping unchanged for a long time.

The solution is made by adding to a 5 p. c. aqueous solution of carbolic acid about one-tenth of its volume of a saturated alcoholic solution of fuchsin. A few drops of this staining fluid is dropped upon the prepared cover-glass, and heat applied to the cover-glass until evaporation occurs, then the cover-glass is dipped into an aqueous or alcoholic solution of 5 p. c. sulphuric acid or 25 p. c nitric acid, shaken about for a few seconds, then washed in alcohol and rinsed in water. By this process the color is removed from all parts of the specimen except the tubercle bacilli. These specimens are best studied with an oil immersion lens and Abbe condenser. The identity of this bacillus is commonly established by the tenacity with which it retains its color when once stained with aniline dyes, the only exception to this characteristic, so far as known, being the bacillus of leprosy.

Examination of the sputum for the presence of the tubercle bacillus is recognized as the most important procedure for the early diagnosis for pulmonary tuberculosis. No conscientious practitioner can afford to neglect this, as an early diagnosis is the only hope for these patients. Every physician should be acquainted with the technique and own, or have access to, a microscope of sufficient power to make these examinations.

Croupous Pneumonia.—The micrococcus pneumoniæ has been proven to be the cause of croupous pneumonia by the researches of Talamon, Salvaoli, Sternberg, Frankel, Weichselbaum, Netter, Gameliæ and others. The bacillus of Friedlander, which, until recently, was thought by some to be the specific infectious agent in this disease has been studied by Gameliæ, and he concludes that it is a true saprophite. There is, however, a morphological resemblance between the two

micro-organisms, but they can be easily distinguished, as the pneumococcus stains readily by Gram's method, while Friedlander's bacillus is decolorized by the iodine solution used in this method. In croupous pneumonia the specific bacteria are usually confined to the lungs. The development of the germ in the body produces a poisonous proteid substance called pneumotoxin, which induces the symptoms of systemic poisoning.

G. and F. Kemperer have succeeded in conferring immunity from this disease in susceptible animals by inoculating them with the filter-cultures of the germ, and also curing animals after infection for some time by injecting them with the serum and fluids of the body of an immuned animal. They found that subjecting the bouillon cultures to a temperature of 60° C. for an hour or two, increased the potency of the filtered substance, and when injected into a vein after being exposed to such temperature, immunity was complete in three or four days; but the same material, when not so heated, required larger doses, and as long as two weeks to confer immunity. From this fact they were led to believe that the introduction of pneumotoxin into the circulation causes an elevation of temperature and produces in the body another proteid substance called anti-pneumotoxin, which has the power of neutralizing the pneumotoxin formed by the development of the bacteria. At the point of neutralization the crisis occurs.

Diphtheria.—The doubt existing among practitioners as to whether or not all classes of pseudo-membranous throat affections were true diphtheria has been removed. Diphtheria differs from other membranous affections of the throat, both in its nature and etiology, but presents the same clinical features, except in degree, and we have reason to believe that very many cases of benign membranous affections of the throat are diagnosed as true diphtheria. Hoffman, Roux, Yersin, Welch and Abbott have recently studied diphtheria. The Klebs-Loffler bacillus is always present, and is found only in this disease, while in pseudo-membranous anginas it is, primarily, at least, always absent. Authorities agree that diphtheria is primarily a local disease, and that the bacilli do not circulate in the blood nor penetrate the tissues to any considerable distance from the seat of the lesion. The constitutional symptoms are caused by the absorption of a toxic albumen generated by the life process of the bacteria. A pseudo-diphtheritic bacillus has been found in benign throat affections in all respects similar to the Lœffler bacillus, except that it has no pathogenic properties, and it is believed that this organism is the true diphtheritic bacillus which in some unknown way has lost its virulence. Bering and Kitasate have succeeded in establishing immunity against virulent cultures of the diphtheritic bacillus by inoculating susceptible animals with filtered germ-free cultures of these bacteria. They also found that mixing the blood of immune animals with virulent cultures of this bacillus neutralizes the toxic substances in the culture; but the bacteria themselves are not destroyed by the blood of the immune animal.

Gonorrhœa.—The causal relation of the gonococcus to this disease is now generally admitted. There are a number of other micro-organisms found in gonorrhœal pus bearing a morphological resemblance to the true gonococcus. Bumm found that the gonococcus was not the only diplococcus contained in the pus

that does not stain by Gram's method, but that that character serves to distinguish it from the staphylococci so frequently found associated with it. According to Sternberg, the most trustworthy diagnostic character, aside from inoculation, is that the gonococci are found within the pus cells, giving a picture not seen in pus from any other source, with the exception of a form of puerperal cystitis described by Bumm, and it can be distinguished from this diplococcus by the fact that the germ of the cystitis retains its color when treated by Gram's method, while the gonococcus is decolorized by the iodine solution. These differential characters are important in making a correct diagnosis, especially in medico-legal cases.

From recent investigation it would seem probable that the abscesses, joint affections and endocarditis that sometimes develop in the course of an attack of gonorrhœa, are due to the staphylococcus pyogenes aureus which is not infrequently found associated with the gonococcus in gonorrhœal discharges. Some authors claim that the gonococcus can be found in the lesions of these affections, but their presence has not been demonstrated, while the staphylococcus pyogenes aureus has been demonstrated in the so-called gonorrhœal abscesses in a number of cases.

Tetanus.—We can no longer doubt that the bacillus tetani found in superficial layers of the soil, and especially in garden soil, when introduced into a wound, produces a toxic substance to which this disease is due. Kitasate's experiments show that the cultures sterilized by filtration through porcelain produces the same symptoms as result from the inoculation with cultures containing the bacillus. This is further shown by the fact that the blood of animals killed by inoculation of pure cultures of the bacilli does not contain the bacilli themselves, but does contain the tetanus poison, which causes tetanic symptoms in mice when inoculated. Kitasate succeeded in producing immunity in rabbits by inoculating them with the filtrate from the cultures of the bacillus, and subsequently at the same site with three cubic centimetres of a 1 p. c. solution of terchloride of iodine at intervals of twenty-four hours for five days. Vaillard obtained the same results by repeated injection of the filtrate after exposing it to a temperature of 60° C. for one hour. A small quantity of blood from an immune rabbit injected into a mouse gave it immunity, and the injection of the blood serum from an immune mouse preserved other mice from death after tetanic symptoms, from inoculation with virulent cultures of tetanus bacillus, had set in. It was further shown that the blood of an immune animal has the power of neutralizing the tetanus poison in virulent cultures of the tetanus bacillus.

We would suggest that the etiology of so-called idiopathic cases of tetanus possibly is entirely different from that of cases following trauma caused by the bacillus.

Asiatic Cholera.—The epidemic of last year added much in volume to our literature, but little of practical importance to our knowledge of the disease. No reliable clinical characteristic has been found by which a positive diagnosis can be made. The coma bacillus can be demonstrated when present in numbers on the second or third day by its morphological and biological characters. It forms

a characteristic wrinkled film on the surface of dilute bouillon cultures in about ten or twelve hours. In gelatin plate cultures before liquefaction the colonies present a white or pale yellow color, with rough edges, the surface looking as if covered with pounded glass when examined microscopically, and at liquefaction a peculiar roseate hue is seen around the colony by transmitted light.

A short funnel is formed on the second day in gelatin cultures, which gradually increases in depth and diameter. On these characteristics, combined with the color test, the diagnosis is based.

Haffkine, of the Pasteur Institute, claims recently to have succeeded in producing a vaccine from the exalted virus of the coma bacillus that has the power of conferring perfect immunity on man and animals from cholera contagion.

Malarial Fever.—The plasmodium malariæ is thought to be an animal parasite, and totally distinct from the class of bacteria. Whatever may be its etiological significance, the fact that it is unknown except in malarial disease, is of great diagnostic value in doubtful cases

Osler considers the discovery of its aid in diagnosis one of the most important advances made in late years in practical medicine. The fresh blood from a finger-prick may be examined in thin layers on the warm stage with an oil immersion lens.

Instruments.—It is claimed that a recent improvement has been made in the manufacture of glass for optical purposes by the addition of phosphorus and chlorine to the materials commonly used. This, it is stated, increases the transparency of the glass in some unknown way, and enables it to receive a higher degree of polish.

Chemotaxis.—This subject has recently received much attention. It has been studied by Ali-Cohen, Mosart, Bordet and others. The term chemotaxis is applied to the property exhibited by living cells toward dead organic material, by virtue of which they approach or recede from certain substances. The chemotaxis is said to be positive when the cell approaches, and negative when it recedes from a chemical substance. Sterilized and non-sterilized cultures of various bacteria excite a positive chemotaxis, while various other substances excite a negative chemotaxis. This can be shown by the fact that, when a small capillary tube, closed at one end, containing the substance to be tested is introduced beneath the skin of an animal, the leucocytes are repelled if the substance excites a negative chemotaxis, and approaches if it excites positive chemotaxis.

Bouchard found that by injecting a quantity of sterilized culture of the same bacillus into the circulation as was used in the tube immediately after introducing the tube, very few leucocytes entered the tube; but when the bacillus culture was not injected into the circulation, the leucocytes crowded into the tube in great numbers, that is, the chemotaxis of the leucocytes for the bacilli in the tube was neutralized by injecting a considerable quantity of the soluble products of the same bacillus into the circulation.

From the above it would seem probable that gathering of leucocytes in suppurating foci may be due to the chemotatic power of the cells for the substances produced by the life process of the bacteria which are gathered there.

Immunity.—Different theories of immunity have been considered. The theories of exhaustion, retention, vital resistance and (phagocytosis) have all had their advocates, but from recent experimental evidence, it would seem that all of these theories are untenable. That the cellular elements implicated may acquire tolerance to the poisons produced by the micro-organisms which is transmissible to their progeny, and thereby confer, in some degree, the exemption enjoyed from future attacks of a disease, and, also, that phagocystosis is probably a factor in conferring immunity in certain diseases, is admitted; but that some substance is formed in the body of an immune animal which neutralizes the toxic products of the pathogenic micro-organisms is more clearly supported by the evidence obtained in recent investigations.

How this anti-toxine is produced is not known, and it is still uncertain whether there is a continuous production of the protective substance, or whether that formed during the attack remains in the body during subsequent immunity. It has been found that the substances isolated from the blood of immune animals do not dialyze, and it does not seem impossible that the substances might be indefinitely retained within the blood-vessels. On the other hand, Ehrlich found in his experiments with mice the tatanus anti-toxine in mothers' milk in sufficient quantity to confer immunity upon her sucklings, which indicates a continuous supply, or the immunity of the mother would soon be lost.

In whatever way the above question may be settled, the results mentioned under the head of croupous pneumonia, diphtheria and tetanus, and Sternberg's recent experiments. showing that the blood of vaccinated calves contains something which neutralizes the specific virulence of vaccine virus gives strong support to the view that acquired immunity depends upon the formation of anti-toxine in the body of immune animals.

THE TREATMENT OF DIPHTHERIA.

By R. A. Patterson, M.D.

The constant discovery of new remedies and new applications of old ones and the appalling fatality or some visitations of diphtheria even in this day of advanced medical knowledge seem to justify the effort to cast upon it every ray of light possible though at the risk of much repetition.

If it be claimed that the pathology, diagnosis and etiology of the disease are understood, the great diversity of systems of Therapy, offered by various advocates, (some claiming to be well nigh infallible), show that the best mode of treatment is far from being established and should this priceless boon ever be granted it must in turn reflect great additional light on the causes and pathology of diphtheria and thereby act as a prophylactic.

Striving to reach this most desirable point so as to determine the most successful mode of treating diphtheria, the writer would add another to the list of remedies or rather a plan of treatment, which has proved most efficacious. That being the object of this paper as little will be said as to history and general characteristics of the disease as seem compatible with the object announced.

Diphtheria has been described under various names, from a remote period, the names being taken mainly from its visible effects.

A fibrous deposit on certain mucous membranes characterizes the disease. The membrane may be merely attached to the mucous surface or may infiltrate it and the tissues beneath. Some writers however claim that this difference is the proper distinction between diphtheritic and crupous deposit. They contend that when the deposit is superficial and does not infiltrate, it is croupous, and when there is infiltration it is diphtheritic. The correct view probably is that when in any epidemic of diphtheria there are found cases with no infiltration, they are diptheritic cases of a milder form.

The tonsils and neighboring parts are the regions mainly affected in the early stages and as it is estimated that three fourths of the fatal cases result from the invasion of the air passages, it should obviously be the object of the practitioner to arrest it ere it extends further. Experience proves that the arrest can be made if treatment is begun early on the plan to be described.

If not arrested the deposit may spread to the larynx, trachea, bronchi, the nasal cavities, Eustachian tubes, middle ear, the eye, involving loss of vision, the lips, and any outlet of the body, and during an epidemic may attack an ulcer existing on any portion of the derma.

The first distinctive sign, the grayish white patch, may be preceded by slight inflammation. It may become reddish brown and varies greatly in degrees of toughness. If the deep tissues are involved the removal of the membrane frequently discloses ulceration. If not arrested early the tonsils and adjacent parts became greatly enlarged. In cases of great severity, there may be sloughs from the mouth and pharynx. The urine is frequently albuminous. The lym-

phatic glands often enlarged. Microscopists record that the fibrous membrane contains bacteria, epithelial cells and pus corpuscles.

Regurgitation of liquids through the nose, on attempting to swallow, from swelling or paralysis of the parts or both is an attendant on bad cases. There is often ptyalism, also stiffness of the parts causing difficulty of articulation and sometimes complete aphonia. Haemorrhage from any or most of the outlets of the body may take place. Instead of much heat, the surface is sometimes cool. Nausea and vomiting may greatly interfere with the proper nourishment. The mind is clear in the majority of cases. Uremia may cause convulsions and coma. There may be complications of general dropsy or pneumonia.

Sudden death has resulted from failure of the action of the heart. Paralysis of various muscles is a frequent consequence. Anæsthesia exists in some cases and in others hyperæstheia. All the organs of special sense may suffer, but as there is no lesion discoverable the effect is generally temporary and may occur in mild as well as in severe cases. Sudden and fatal syncope sometimes comes on from cases not previously considered dangerous. In a part of the above description the words of Flint have been adopted.

There is difference of opinion as to the pathology of the disease. One view is that the vegitable germs find lodgment in the throat in the first instance, migrate to other parts of the body and so the disease becomes general. Another is, that it is general from the beginning and that the local manifestations are secondary.

It is generally admitted to be contagious and also to be produced by neglect of sanitary precautions. The contagion seems to be feeble in some instances, so as to lead to the denial occasionally of its being communicated in that way. Many striking instances, however, of its contagiousness, or at least of its portability could be cited.

Now it cannot be denied, that from its pathology and symptoms, the antidote must be distinctly antiseptic and germicidal, also that it must be tonic and alterative. The disease is rapid in its course and the success of any line of treatment depends on an early application of the remedies, because, as hinted above, if through delay it is allowed to enter the air passages, the chances of recovery are greatly lessened. Adopting this view, and adopting the mode of treatment thereto, the remarkable success attending it verifies its correctness and proves it to be founded of scientific principles and to be devoid of empiricism.

Before detailing the plan of treatment pursued, an outline of the history of some epidemics which came under the observation of the writer extending back through years will be premised.

In 1886, an epidemic of diphtheria presented itself in a locality between Weldon and Gaston in the county of Halifax, whether through contagion or neglect of sanitary precautions did not appear. There were many fatal cases, in one instance at least three deaths in one family, and the attending physicians pronounced it to be of a most malignant type.

The epidemic extended and entered the bounds of the writers practice. The first case had his most careful attention, the course of treatment was such as had

been inculcated by approved authors. In spite of every device it marched steadily on to a fatal termination. Before being called to another case, the plan of treatment to be cited occurred to him and in twenty cases following, there was not a death although some of the sufferers had reached a stage in which some of the most alarming symptoms were displayed. In the years next succeeding sporadic cases presented themselves from time to time which yielded very readily to the same treatment. In the autumn of 1892 the writer was called to the case of a girl aged perhaps 12 years who had been under previous treatment for five or six days by another practitioner, and declining steadily till he saw her at which time it is fair to say she was "in articulo mortis." She died within a few hours. This case was followed by three others in the same family, but the early application of the same remedies was so efficacious that it prevented the necessity of confining any one of them to bed. During the next week in a family near by in which there were seven children between the ages of 2 and 18 years the disease appeared. Having been called in to diagnose and treat the malady and the mother being a woman of strong sense and a good nurse, the medicine was prepared and directions given and the management of the cases was committed to her. She carried them through safely without other medical advice. In another family a case appeared and treatment being instituted immediately it soon recovered and there was no other. A neighboring physician a member of this society, having adopted the system of treatment proposed, has related to the writer remarkable cases of recovery due to its use and expressed the opinion that it should be universally adopted.

We come to the indications of treatment as suggested by its known attributes.

It was stated above that germicides, tonics and alteratives have yielded the best results as admitted by authors.

Some years back in a prize essay by Dr. E. L. Gaillard, he warmly advocated the treatment of it by a combination of muriatic acid, tincture muriate iron, and patassium chlorate to be taken internally at short intervals. This was a most fortunate conception, for this conbination with the addition of water, sets free that efficient and superior germicide chlorine, and yields to the system, the tonic iron so much needed in the asthenic condition superinduced by this affection. It is a remedy highly approved and will prove curative in many cases of itself, but in some it will not. A combination of Pinus canadensis and carbolic acid, applied locally has been highly extolled. The Pinus as an application to inflamed and ulcerated surfaces was highly eulogised by the late Marion Sims, especially that proposed by Kennedy, and the writer following his teaching has abundantly proved its correctness.. The addition to it of the Phenic acid brings another powerful antiseptic to the aid of chlorine, and the septic tendency of the disease seems at once to yield to the potency of the two.

Now it occurred to the writer that if this constitutional remedy as suggested by Gaillard and the local application of the Pinus and Phenic acid were used in conjunction, that it would most probably arrest the advancing sepsis if applied early in the attack. The result after long and thorough test verified his most sanguine hopes and in these two applications constitutional and local we have a

specific for diphtheria if there is such a principle as a specific for any disease. So that while the writer claims no credit as to the discovery of the medicinal virtues of the compound parts, he does claim to have been first to advise the combination which appears to be the "ne plus ultra" for diphtheria.

The details of the treatment are these. As soon as the patient is seen, do not delay for the action of a cathartic or other medicine but begin to combat the poison at once by the administration of two table spoonsfull (every hour) for adults and proportionally less for children according to age, of the following preparation: Potassium Chlorate ℥ 1, Dilute Muriatic Acid ℥ 2, Tinc Muriate Iron ʒ 2, Water ℥ 12, diminished to one or two doses at night with tonic does of quinine thrice daily. The above compound has a slightly acid taste and is not much objected to by children. Immediately after its administration proceed to mop the throat, depressing the tongue, with a mixture of Pinus ℥ 1, Phenic acid gtt. 10. The mopping is repeated after each dose of the solution. The mops may be made of a small twig the size of a goose quill eight inches long with a little lint bound round the end. This is given instead of a more artistic implement because so easily obtained. The mopping should be done carefully so as not to wound the tender membrane. Petrolium applied externally to the throat may act beneficially.

Under this treatment improvement begins at once. The fibrous matter ceases to accumulate. That which had already appeared turns black, contracts around the edges and in a few days drops off and amelioration of the systemic symptoms becomes obvious.

Unlike the plan of treatment proposed at your last meeting by Dr. Martindale of New York, this course does not require an air tight room so unattainable in many places, nor an oil stove quite as much so, but may be applied easily and speedily anywhere.

ANNUAL REPORT OF THE SECRETARY OF THE NORTH CAROLINA BOARD OF HEALTH.

By Richard H. Lewis, M.D., Raleigh, N. C.

By section 27 of the Act Relating to the Board of Health, the Secretary is required to submit his annual report at this, the annual meeting of the Board. He is also required by Sec. 3 of the same to make biennially to the General Assembly through the Governor, a report of the work of the Board. In compliance with the latter the fourth biennial report for 1891-92 was prepared and submitted, and the portion of it covering the period from the last annual meeting to January 1st, 1893, is respectfully referred to as a part of this report. [Read from the biennial report the references to the life and work of Dr Thomas F. Wood.]

On January 2nd, an invitation to meet with the State Board of Health in a Health Conference on January 24th in the city of Raleigh was mailed to the number of six hundred and fifty to the officers of the State Government, members of the General Assembly, mayors of towns, County Superintendents of Health, chairmen of boards of County Commissioners, physicians and other prominent men. The attendance was not very large, but varied and of good quality. The number of County Superintendents of Health present (three, and one of them a member of the Legislature) was discouraging, particularly in view of the fact that one of the principal subjects for discussion named in the invitation was their own salaries, about which much complaint had been made. The following are the proceedings of the Health Conference:

Raleigh, N. C., January 24th, 1893.

On a call from the President of the State Board of Health, Dr. H. T. Bahnson, of Salem, that body met in the city of Raleigh on the above date, there being present Drs. J. H. Tucker, J. A. Hodges, Geo. G. Thomas, Prof. F. P. Venable and the Secretary.

There were present also Superintendents of Health, practicing physicians and other citizens interested in sanitation and the health of the State, all of whom were invited to meet with the State Board of Health in a Health Conference.

In the absence of President Bahnson the Secretary called the Conference to order, stating the object of the Conference to be a consideration of the best method to prevent the introduction of pestilential diseases into the State, the method of fixing the salaries of superintendents of Health and other matters relating to the general health of the State.

He introduced the Mayor of the city of Raleigh, who extended a cordial welcome to the Conference and assured it of his hearty support in its efforts to promote the welfare of the State in the all important matter of health.

The first order of business being the selection of a permanent chairman, Dr. Thomas nominated Col. W. H. S. Burgwyn, a man who had shown himself to be actively interested in the health matters of North Carolina. Col. Burgwyn was unanimously elected and on assuming the chair expressed himself as feeling highly honored by being invited to preside over the meeting and gladly offered

all the assistance in his power to the Conference in improving the safeguards against the ravages of plagues and epidemics. The prosperity of the country is largely dependent upon the medical profession, and this is especially noteworthy of the last twelve months when the country is to undertake the stupendous task of entertaining the whole world and at the same time guard her citizens from the terrible plague which caused such destruction of life in Europe last year and which is apparently only waiting for the approach of warm weather to renew its work of devastation and destruction.

The Secretary presented as the first duty of the Conference the amendment of the health laws of the State, and read a copy of a law suggested by the President, after which he stated that a substitute for the old law had been drawn up by himself for the consideration of the Conference.

It was moved and decided that the Sectary read his proposed substitute for the existing laws section by section and if there be no objection raised the section be considered as approved by the Conference.

Section 1. Adopted without objection.

Sec. 2. There being some doubt as to whether the proposed reading would call for the election of six new members of the Board this year, it was corrected to make the fact clear that the successors of the present incumbents were to be elected only at the expiration of the terms of the present members; each new member being elected for six years.

Sec. 3. The important part of this section is the duty of the Board to inspect the public institutions of the State, and the Secretary explained that before any action was taken he had communicated with the chief officers of the asylums and of the Penitentiary and they had expressed the opinion that such inspection would be very proper and desirable. The section was approved; but later Dr. J. W. Jones thought that the inspection of the stockades should be made oftener than once a year, as frequently a stockade was not in existence so long as a year, and in that event it might not be inspected at all. An amendment was added to the section, providing for inspection as much oftener as requested by the Board of Charities." The Secretary said that he had considered the advisability of having the superintendents of the public institutions make monthly reports to the Board of Health but as they have to keep a record of these things any way and include them in their regular reports he thought it not well to impose this duty upon them.

Sec. 4. Approved without discussion.

Sec. 5. This section was amended so as to make eligible to membership in the County Boards of Health all properly registered physicians.

Sec. 6. Dr. Hodges thought the law regarding fines against superintendents had been a dead law, that he believed these fines had never been collected. He had at times been delinquent in sending in his reports when he was a superintendent and had never paid a fine. The Secretary explained that heretofore it had not been obligatory on the Secretary to notify the county commissioners of the delinquency of the superintendents. On motion the section was amended making it the duty of the Secretary of the State Board to notify the commis-

sioners on the 11th of each month of any delinquency on the part of superintendents to send in their reports by the 10th. As amended the section was adopted.

Sec. 7. This section, relating to the salaries of superintendents of health, provoked a very great deal of discussion by the members of the Conference generally. The Secretary thought the salaries of these officers should be imposed and regulated by legislative enactment so that they could act independently in performing their duties. There was a unanimity of opinion as to the fact that the salaries of the superintendents were far from satisfactory, but there seeming to be an inability to come to any conclusion as to the best and wisest plan for improving them, Dr. Hodgers moved that the matter be referred to a committee who should consider it and report at the afternoon session. This motion was carried.

Sec. 8. The Secretary explained that this section was introduced in its proposed form for the purpose of making one definite day for the election of superintendents in all the counties of the State, and so that all terms of office would expire at the same time. Dr. Thomas thought the reason why local boards of health held such infrequent meetings was because they were invested with no power except to give advice and their advice generally resulted in nothing. The section was adopted.

Sec. 9. Adopted.

Sec. 10. Adopted.

Sec. 11. Adopted.

Sec. 12. Adopted.

Sec. 13. Dr. Hodges thought we ought to deal with great tenderness with the affairs of the public schools. Some committeemen live 10 miles apart, and it would be hard to get them together to consider these things. The Secretary explained that it was only the diseases that were really dangerous to life that were included in this section. The section is intended to apply especially to city schools but should also apply to county schools. Dr. Crouse thought the last clause requiring the child, who persisted in coming to school while it was in dangerous contact with contagious diseases at home, to be dismissed from the school for the remainder of the term, a hardship on the child and not a punishment on the parent where the blame should rest. After some discussion it was decided to leave this clause out, and as so amended the section was passed.

Sec. 14. Adopted.

Sec. 15. Amended so as to provide for the early removal of a suspect from the State and was then adopted.

Sec. 16. Adopted after a slight amendment.

Sec. 17. This section was explained to refer to potable waters. It was then adopted.

Sec. 18. Adopted after a slight amendment.

The remaining sections were adopted without much discussion.

The Chair attempted to appoint the committee to take into consideration the matter of salaries of superintendents of health but there were none willing to

assume the office and on motion it was referred back to the whole meeting for action and then postponed to the afternoon session.

The Conference then adjourned to 3 p. m.

AFTERNOON SESSION.

The Conference was called to order by the Chairman at 3 o'clock.

Section 7, relating to salaries of Superintendents was introduced as the first order of business and again evoked much discnssion with final result of adopting the section as it now stands.

The matter of taking some action looking to securing some law of compulsory vaccination elicted quite a spirited debate. All present seemed to agree as to the desirability of a more general practice of vaccination but some were doubtful as to the advisability of attempting to secure legislation to require vaccination just at present as it might jeopardize the whole bill.

On motion the whole bill was adopted as a substitute for the present Act Relating to the Board of Health.

By invitation Dr. W. G. Curtis, quarantine physician of the station at the mouth of the Cape Fear river, read a paper with a description of the station as it now is, a recital of the needs of the station and a discussion of the probability of cholera into this State the coming summer.

During the latter part of the meeting Dr. Geo. G. Thomas presided as Col. Burgwyn was obliged to leave.

After the reading of Dr. Curtis's paper which was listened to with much interest, the Conference adjourned *sine die.*

RICH. H. LEWIS, Secretary.

Upon request the President of the Senate and the Speaker of the House announced a joint meeting of their respective Committees on Public Health—the first committees, by the way, on public health ever appointed by any Legislature in the history of the State, I am told—for the night after the adjournment of the Conference, to consult with members of the Board of Health in regard to Sanitary matters, generally, and the proposed legislation in the interest of the public health in particular. Messrs. Hodges, Venable, Thomas and the Secretary appeared before them, and the bill was read over and explained. Senator Lucas of Bladen county, Chairman of Senate Committee on Public Health, who has just been appointed on the Board by Gov. Carr, took charge of the bill and introduced it in the Senate. The Secretary again appeared before the Senate Committee to which it was referred on its introduction and it was favorably reported with unanimity. He also had a number of personal interviews with Senators in regard to the importance of the act and besides sent a letter with a copy of the Act to about 100 physicians, county superintendents and others urging them to use their influence with their Senators and Representatives in effecting the passage of the bill.

This letter bore fruit and after some delay and much vexation of spirit on the part of your Secretary the bill passed the Senate by a vote of 34 to 8 though somewhat damaged by amendments. The House Committee unanimously recommended its passage. Notwithstanding that fact when it came up on its second reading it was laid on the table in short order by a considerable majority which of course would have been the end of it but for the tact and parliamentary skill of the Hon. Edmund Jones of Caldwell, a warm personal friend of your Secretary, who got it up again and with the active assistance of a number of the best men in the House, medical and lay, secured its passage. I was very anxious to have some of the Senate amendments corrected in the House but our friends in that body advised strongly against attempting any amendment on the ground that if they ever began to amend it it would probably come out in worse shape than the Senate had left it. Your Secretary deferred to their wisdom, feeling that it was better to take what we had than to run a serious risk of losing much more.

The Act as finally passed differs from that proposed by the Health Conference essentially in these particulars: The appointment of five members instead of three out of the nine is given to the Governor and the term of office of all is made the same, two years—an unfortunate change I think in both respects.

The annual appropriation of 3,000 dollars asked for was cut down to 2,000, the same as heretofore. In other respects it is essentially as introduced.

On the whole we have made a decided advance, as a comparison of the new with the old law will clearly show, I think. The old law, which was incorporated in the new, was improved in many respects and many new and valuable sections, providing for much better protection against the introduction and spread of contagious and infectious diseases, and for the preservation of water supplies as well as improvements in other respects, were added. While our annual appropriation was not increased in dollars it was materially augmented by the removal of the $250 limit to our requisition on the State Printer for stationary and printing. The emergency fund was also increased from two to five thousand dollars.

On January 27th, letters with new blanks to be used for monthly reports were sent to all County Superintendents and town reporters.

On March 10th, a letter and blank were sent to every Clerk of the Superior court in the State, asking for a list of all the registered physicians in each county.

On the 28th of March, a second letter was sent to thirty-one clerks who had not responded to first letter.

On April 4th, a letter of acknowledgment, together with a copy of the "Laws Regulating the Practice of Medicine in North Carolina," was mailed to all clerks who had sent in lists.

This letter explained to them the requirements for registration, as the lists showed some illegal registrations had been made.

While the administration of the laws regulating medical practice, does not come technically within the jurisdiction of the Secretary of the State Board of Health it has a sufficient bearing on the health of the people, he thinks, to justify his action in availing himself of an opportunity to probably correct some errors in the registration of physicians that had been made—and to prevent their oc-

currence in future by calling the attention of the Clerks of court especially to the law as it now stands. It is gratifying to know that his efforts were appreciated by some of the clerks at any rate and that one to my certain knowledge recalled certificates which under a misapprehension he had incorrectly issued.

In response to a call for a conference of State Board of Health to be held in New York on April 5th, 1893, to consult upon the conditions of the quarantine stations of the country and other matters pertaining to keeping out pestilential diseases, the President and Secretary attended as delegates from this Board.

The principle business accomplished by this conference over and above the good resulting from personal contract and interchange of ideas is set forth in the published report of the Secretary of that body.

On April 12th, your Secretary received this letter:

WILMINGTON, N. C., April 11th, 1893.

DR. R. H. LEWIS, Secretary State B'd of Health, Raleigh, N. C.

Dear Doctor:—The Quarantine Board of the Port of Wilmington respectfully submit that in view of the opinion expressed by the Conference of Health Officers that the emergency demanded the erection and operation of disinfecting plants at seaport towns, the State Board of Health take up the question and consider the advisability of making available the appropriation made for this port by the last legislature.

Respectfully,
GEO. GILLETT THOMAS,
Secretary B'd of Quarantine, Port of Wilmington, N. C.

In consequence thereof we addressed a letter to each member of the Board of Health containing a copy of Dr. Thomas' letter with an abstract of the minutes of the Conference and of the Legislative act making the appropriation. To this letter replies were received from all the members, only one opposing the appropriation. As soon as a majority had been heard from, realizing the importance of getting to work on the quarantine station at the earliest possible moment, I wrote to his Excellency, Governor Carr, who was then at Rocky Mount, which letter was delayed in reaching him. Immediately upon his return to the Capitol I laid the matter with the correspondence before him. He appointed an hour the same afternoon for me to call for his decision but before it arrived he was unexpectedly summoned to Newbern. On his return having received replies from every member of the Board I addressed to him this communication:

MAY 1st, 1893.

HIS EXCELLENCY ELIAS CARR, Governor of North Carolina,

Sir:—Since my communication of the 17th ult., addressed to you at Rocky Mount, stating that "replies from a majority (of the Board of Health) expressing the opinion that 'the entrance of cholera into the Port of Wilmington as imminent' had been received," I have heard from every member. The replies from eight are as above, and from one to the effect that the entrance of cholera is no more imminent now than at the time of the passage of the act. I beg to dissent

from that opinion, for the reason that a number of fresh cases have occurred on the west coast of Europe since the adjournment of the Legislature, and sanitarians now consider the outlook for the summer very gloomy.

The Quarantine Board of Wilmington now awaits the concurrence of your Excellency in the opinion of the State Board of Health as required by the act before beginning this work of such great importance in protecting the Port and State from the scourge which threatens us. With great respect,

Your obedient servant,
RICH. H. LEWIS, M.D., Secretary.

To this letter the Governor replied as follows:

MAY 1st, 1893.

DR. RICHARD H. LEWIS, Secretary N. C. Board of Health, Raleigh, N. C.

Dear Sir:—Replying to your kind favor of the 1st instant, I would state, in accordance with your views and the other members of the State Board of Health, and after viewing the situation as it is, that, Section 2 of the act to amend 2915 of The Code as follows: "For the purpose of carrying into effect the provisions of section 2915 as herein amended the sum of Twenty Thousand ($20,000,00) dollars, is hereby appropriated out of any moneys in the State Treasury not otherwise appropriated, to be paid from time to time, as required in the prosecution of the work on the requisition of the Treasurer of the Quarantine Board and approved by its President; Provided, that the funds appropriated by this act shall not be paid over by the Treasurer until the Governor and State Board of Health of North Carolina shall certify to the Treasurer that there is eminent danger of cholera visiting the City of Wilmington or other sections of the State," makes it my plain duty to inform you that the amount appropriated ($20,000,00) is now available, and can be used in carrying out the provisions of the act.

With highest esteem, I am,

Yours very truly,
ELIAS CARR, Governor.

I immediately wired the Secretary of the Quarantine Board of Wilmington. "Governor approves. Go ahead. R. H. LEWIS, Secy."

Afterwards I wrote him as follows:

MAY 2nd, 1893.

DR. GEORGE G. THOMAS, Secretary Board of Quarantine, Port of Wilmington,

My Dear Doctor:—In compliance with your communication of the 11th, ult. calling upon the State Board of Health to "take up the question and consider the advisability of making available the appropriation made for the port by the last legislature," I addressed a letter setting forth the facts to each member of the Board. Replies from all were duly received—eight voting in favor and one against complying with the condition necessary to make the appropriation available.

The whole correspondence was laid before his Excellency, the Governor, at

the earliest opportunity and to-day I received his decision. I inclose his letter which, after submitting it to your Board you will please return and oblige.

Yours truly,

RICH. H. LEWIS, M.D., Secretary.

While the securing of a Quarantine station with all the modern improvements for our chief seaport, a work of the highest value, from a sanitary point of view, to the State, cannot be credited to our Board it is gratifying to know that the leader in that movement was one of our members, Dr. George G. Thomas who was most ably assisted Dr. T. S. Burbank, Messrs. J. C. Stevenson, Alex. Sprunt and others. Thanks to their efforts and to our enlightened and progressive Legislature, North Carolina will soon be abreast of the most advanced communities in the matter of maritime quarantine protection.

In the performance of the duty imposed upon me in Section 9, of the Act Relating to the Board of Health I prepared a pamphlet containing Instructions for Quarantine and Disinfection and mailed a copy of these instructions together with a copy of the new law to every registered physician in every county in North Carolina except four, from the Clerks of which no reply has been received to either of my two letters: I shall write them again. The total number mailed so far is 1517. The "instructions" in quantity will be sent to all County Superintendents and Municipal health officers. With them will be sent the placards required to be posted on the front door of every house containing a case of either of the diseases mentioned in section nine.

Continuing the plan of trying to educate the people in sanitary matters by popular articles in the newspapers I sent an article together with a copy of the Instructions for Quarantine and Disinfection to every newspaper in the State, with a request that they publish same.

Just on this line members of the profession can be of great assistance, provided they approve of the plan and the articles, by using their influence with the editors of their local papers to get them to publish them. A public sentiment favorable to sanitation must be built up if we expect to make any substantial progress. The Anglo-Saxon people of this free country cannot be driven to the performance of what they do not opprove. They must be persuaded of the importance of these restraints upon their liberties under certain circumstances before they can be successfully imposed.

But the physicians of the State can be of much greater service to the cause of the public health in another way and that is by giving to the law and the sanitary regulations imposed by it their own cordial support. Indeed the practical application of the law is in the hands of our medical men. If they give it their cordial support and urge its importance upon their patients it will be carried out but if they are indifferent and make light of and belittle it it will surely be largely of no effect. In view of the wholesale danger to life of the spread of contagious and infectious diseases which can almost surely be prevented by the strict en-

forcement of sanitary regulations this is no light responsibility which rests upon us whether we are willing to assume it or not.

Section 19 of the Law requires all State institutions before adopting a system of water-supply and sewerage to consult the State Board of Health. In compliance with that requirement the President of the Board of Directors of the proposed School for the Deaf and Dumb at Morganton, addressed the following letter to the President of the Board of Health.

BILTMORE, N. C., March 31st, 1893.

DR. HENRY T. BAHNSON, Salem, N. C.,

Dear Sir:—I see that the laws of 1893, makes it the duty of the Board of Health of the State of North Carolina to consult and advise with all the State Institutions already having, or intending to introduce systems of water-supply, drainage, or sewerage. The board of the Deaf and Dumb school at Morganton are considering their water-supply; we are considering two ways of furnishing same. One by gravitation and to get it would have to lay a line of pipe about four miles at a cost of from $12,000 to $15,000, which is more money than the board can pay if we can get that which will answer cheaper. We also have under consideration the "Gang Well" system, which, if it is thought will work well and the quality of the water is all right, will be a great deal cheaper. This system we will have ample means of testing as the Morganton Tannery is putting in a gang well on adjoining property to that of the Institution. I do not think there will be a doubt as to quantity if the quality is what is desired. I go into the details so you can the better advise us, and to do this would be glad to have you with us at our next board meeting on the 14th April. The sewage from the building will be conducted in the usual sewerage pipe one half mile from building emptying into a creek with a fall of about 150 feet.

Hoping to hear from you on the subject, or better, see you at our meeting.

I am very truly,

M. L. REID, Chairman Board D. and D., School.

In accordance therewith a committee composed of Drs. H. T. Bahnson and S. Westray Battle, visited Morganton, examined carefully into the matter and made the following report.

May 5th, 1893.

To the Honorable Board of Directors Deaf and Dumb School, at Morganton, N. C.:

Gentlemen:—The committee appointed by the North Carolina Board of Health, in compliance with your request, to examine and advise your honorable body, relative to a water supply and sewerage system for the Deaf and Dumb school at Morganton, N. C., beg to submit the following report:

A careful inspection of the site and surroundings has satisfied us that the sewage of the institution should be emptied directly into Hunting creek. The smaller stream to the rear of the school is objectionable, on account of its limited water supply, and its liability to overflow *during freshets*, and deposit the sewage on the low-lands in its course. The prevalent westerly winds would thence con-

vey its unpleasant and perhaps noxious effluvia to the institution. Hunting creek furnishes so large a volume of water that this menace is entirely avoided, and a conduit in a direct line, with ample and uninterrupted fall, would cost very little more.

The water-supply presents a more difficult problem. While there is no doubt in our minds that a pipe-line from a mountain stream, whose water-shed could be owned and protected by the authorities of the institution, would furnish the best and safest supply, the great cost practically prohibits its adoption. A system of gang-wells has been successfully employed by the large tannery on the adjoining property, which furnishes very much more water than will ever be required by your institution. This water is apparently pure, and the plant required an outlay of less than one-fourth of the amount which a pipe-line from the mountain would cost.

The site in the rear of the school is apparently favorable for the adoption of a similar system. Water obtained here would probably be free from mineral impurity, and the danger of contamination is so remote that it can safely be left out of consideration.

Under the circumstances, we cannot hesitate to recommend that an attempt be made to obtain a water-supply from this source.

Very respectfully,

HENRY T. BAHNSON, M.D.,
S. WESTRAY BATTLE, M.D.,
Committee.

It needs no argument to prove that the greatest danger from cantagious and infectious diseases is where numbers of people are congregated together in close quarters, and therefore that the machinery for combatting them should be made as near perfect as possible in cities and towns. To that end the organization of local municipal boards of health is a necessity. Section 25 of the law confers full powers upon all municipal corporations to make such regulations and impose such penalties for the preservation of the public health as they may deem necessary; but the matter is often optional with them. In the hope of inducing as many as possible to organize boards of health with the necessary powers, I have prepared the following letter, to be sent to the Mayors of all towns of more than 500 inhabitants:

His Honor, the Mayor:

Dear Sir:—The warm weather is upon us, and it is time for those of us upon whom rests the responsibility of looking out for the protection of the health of the people to be bestirring ourselves. Wherever there is a board of health organized it is clearly its duty; but otherwise, in cities and towns, it falls upon the Mayor and Board of Aldermen or Town Commissioners. It is best, however, to have a body whose special duty it is, and therefore it is expressly desirable that boards of health should be formed in all towns where they do not already exist. This is particularly the case just at this time, since the entrance of cholera into our country this summer is regarded as more than probable.

Have you a board of health in your town? If so, will you be kind enough to send in the names of its officers and a copy of its sanitary regulations? If not, will you not exert yourself to secure the formation of one as soon as possible? If desired, I would take pleasure in forwarding to you, free of charge, model ordinances, blanks, etc. Your aid in this important matter is asked in the interest of your own people chiefly, but also for the sake of other citizens of the State who might incur disease from your town if the proper and necessary sanitary precautions are neglected.

Your kind attention will oblige,

Yours, very respectfully,

RICH. H. LEWIS, M.D., Secretary.

It is hoped that the members of the profession throughout the State will lend their active assistance in carrying out our excellent new law.

Respectfully submitted,

RICH. H. LEWIS, M.D., Secretary.

DISCUSSION.

Dr. Thomas stated for the information of those living in the eastern part of the State, that the Quarantine Station to be built at Southport was intended to be a relief station for all that part of the State, so that, if any vessel came to any port where the port officer felt he did not have the provisions for properly caring for her, she could be sent to the station at Southport. As a representative of the Quarantine Board, he felt especially under obligations to the State Board of Health. To accomplish this work has been a thing long hoped for. Many visits have been made to the Legislature in their efforts to gain the assistance of the State. Practically all the stations South of us are provided with stations of approved pattern. They believe that only super-heated steam is a safe disinfectant for the baggage and clothing of passengers and crews of infected ships, and such an apparatus will be erected at the Cape Fear Station. Notwithstanding the cavils of the laboratory men, sulphur will still be used for disinfecting the holds of vessels. It has been so effective thus far that no vessel which has been disinfected with sulphur and washed with bichloride solution, has been known to carry contagion. He invited members of the Society to visit the station after its completion and see it in operation.

Dr. Reagan deprecated the lack of interest on the part of members in the Conjoint Session, and thought this lethargy must be overcome before we can expect to excite the interest of the legislators and the laity.

Dr. H. W. Lewis said it would take the stimulus of an epidemic to create an interest in sanitary matters among the physicians of his county. In making his reports as Superintendent of Health, he had to depend almost entirely upon his own practice in enumerating the prevailing diseases. He thought the law, while probably as good as could be obtained, was defective in not making provision for the remuneration of superintendents for their extra and especial services in case of epidemics. He understood the law to only give the superintendent the

right to charge for his visits to the poor-house and jail. (The Secretary explained that it gave him the right to demand the fees usual in his county for any services he might render.) He regretted there had been no legislation in regard to vaccination. His county was raising a large crop for the reaper, should an epidemic of small-pox appear.

The Secretary stated that in regard to vaccination the Conference were in accord as to the desirability of compulsory vaccination, but that such a clause in the bill would have jeopardized the whole bill. People cannot be driven in these matters. In this connection he referred to some remarks made by Dr. Lewis at the last meeting, when he stated that he had appointed a day on which to vaccinate the pupils at a county school, and when he arrived there he found that all the school had taken flight.

The Secretary announced that the terms of office of himself and Dr. Bahnson expired with this meeting, and that under the new law these vacancies would be filled by the Governor's appointment.

There was some discussion as to whether it would be proper for the Society to recommend candidates for appointment, but it was the sense of the meeting that it should be left for the Governor to ask for such recommendation should he desire it.

The Secretary called the attention of superintendents of health to the fact that it is now made obligatory on him to notify the County Commissioners of the failure on the part of superintendents to make their reports. He also urged upon physicians to attend the meetings of the board of health for the election of superintendents, that proper men may be selected for these positions.

LIST OF MEMBERS

IN THE ORDER IN WHICH THEY SIGNED THE CONSTITUTION.

(The effort has been made to obtain the correct address of each member of the Society. Any person noting an error or omission in this roster will please inform the Secretary of the Society, at Wilmington, giving the proper correction.)

DATE OF SIGNING.		
1849	Dr. J. B. Dunn	Raleigh.
1850	" E. B Haywood (D)	Raleigh.
1850	" N. J. Pittman (D)	Tarboro.
1851	" Robt. Gibbon	Charlotte.
1852	" A. B. Pierce	Weldon.
1852	" AllmanHolmes	Clinton
1852	" E. A. Anderson	Wilmington.
1855	" J. J. Summerell (D)	Salisbury.
1855	" Peter E. Hines	Raleigh.
1857	" R. H. Winborne	Barnitz
1858	" Geo. A. Foote	Warrenton.
1859	" Eugene Grissom	Denver, Colorado.
1859	" R. L. Payne	Lexington.
1860	" W J. Jones	Goldsboro.
1860	" Chas. J. O'Hagan	Greenville.
1860	" J W. Jones	Tarboro.
1860	" J. K. Ruffin	Wilson.
1867	" Wm. R Wood	Raleigh.
1867	" P. A. Barrier	Mt. Pleasant.
1867	" Geo. L Kirby	Goldsboro.
1867	" J F. Shaffner	Salem.
1868	" W. T. Cheatham	Henderson.
1868	" Elisha Porter	Rocky Point.
1868	" F. J. Haywood	Raleigh.
1868	" B. P. Alston	Henderson.
1869	" L. L. Staton	Tarboro.
1869	" H. T. Bahnson	Salem.
1870	" W. W. Lane	Wilmington.
1870	" Chas. Duffy	Newbern.
1870	" Wm. J. Love	Wilmington.
1870	" Jas. McKee	Raleigh.
1870	" Willis Alston	Littleton.
1870	" W J. H. Bellamy	Wilmington.
1870	" Geo. F. Lucas	Currie.
1871	" W. I. Royster	Raleigh.
1871	" Geo. Gillett Thomas	Wilmington.
1872	" Francis Duffy	Newbern.
1873	" A. G. Carr	Durham.
1873	" J. F. Miller	Goldsboro.
1873	" J. M. Hadley	LaGrange.
1873	" J. W. Vick	Selma.
1873	" P. L. Murphy	Morganton.
1874	" Jos. Graham	Charlotte.
1874	" W. H. Lilly	Concord.
1874	" J. H. McMullen	Edenton.
1874	" T D.Haigh	Fayetteville.
1874	" W. A. Ingram	Wadesboro.
1875	" L. J. Picot	Littleton.
1875	" D. N. Sills	Castalia.
1875	" D. W. Bullnck	Wilmington.
1875	" W. H. Whitehead	Rocky Mount.
1875	" R. H. Speight	Wrendale.
1875	" F. J. Thorpe	Rocky Mount.
1876	" W. C. McDuffie	Fayetteville.
1876	" Henry Tull	Kinston.

1876	Dr.	J. W. McNeill	Fayetteville.
1876	"	J. D. McMillan	Lumberton.
1876	"	W. H. McKinnon	Fayetteville.
1877	"	J. D. Roberts	Durham.
1877	"	Geo. W. Long	Graham.
1877	"	Geo. W. Graham	Cearlotte.
1877	"	N. S. Stevens	Salem.
1877	"	Richard H. Lewis	Raleigh.
1877	"	F. W. Potter (D)	Wilmington.
1847	"	J. F. Harrell	Whiteville.
1877	"	A. M. Lee	Clinton.
1878	"	J. R. McClelland	Mooresville.
1878	"	R. J. Noble	Smithfield.
1878	"	W. H. H Cobb	Goldsboro.
1878	"	J H. Tucker	Henderson.
1878	"	E. H. Hornaday	Willow Green.
1878	"	I. W. Faison	Charlotte.
1879	"	I. C. Ector	Friendship.
1879	"	Hubert Haywood	Raleigh.
1879	"	J. M. Covington	Rockingham.
1879	"	C. E. Bradsher (D)	Durham.
1879	"	S. W. Stevenson	Mooresville.
1879	"	W. P. Beall	Greensboro
1879	"	A. D McDonald	Wilmington.
1879	"	S. B. Jones	Charlotte.
1879	"	J. J Cox	High Point.
1879	"	D M. Prince	Laurinburg.
1879	"	J. A Sexton	Raleigh
1879	"	John C. Walton	Reidsville.
1879	"	R. A Hargrave	Robesonville.
1879	"	Julian M. Baker	Tarboro.
1879	"	Thos. E Anderson	Statesville.
1880	"	J. M. Stansill	Rockingham.
1880	"	Thomas Hill	Goldsboro.
1880	"	E. de la R. King	Beaufort.
1880	"	J. C. Shepard	Wilmington.
1880	"	W. C. Galloway	Winston.
1880	"	T. W. Harris (D)	Chapel Hill.
1880	"	T S. Burbank	Wilmington.
1880	"	R. W. Thomas	Thomasville.
1880	"	C. M. Poole	Salisbury.
1880	"	J. L. Nicholson	Richlands.
1880	"	A. W. Knox	Raleigh
1880	"	John Whitehead	Salisbury.
1880	"	S J. Montague	Winston.
1880	"	J. A Collins	Enfield.
1880	"	W. P. Mercer	Elm City.
1880	"	L. W. Hunter	Charlotte.
1881	"	R F. Whiteside	Hickory.
1881	"	W. L. Crump	South River.
1881	"	D. J Cain (D)	Asheville.
1881	"	J. A. Reagan	Weaverville.
1881	"	T B. Robertson (D)	Neuse.
1881	"	G. W. Fletcher	Fletchers.
1881	"	J. Anderson	Calahan.
1881	"	E. Crowell	Lincolnton.
1881	"	M H. Fletcher	Asheville.
1881	"	T. M. Jordan	Hookerton.
1881	"	C. Winston	Winter Haven, Fla.
1881	"	R. L. Payne, Jr.	Lexington.
1881	"	T F. Meisenheimer	Morven
1881	"	T. F. Pharr	Concord.
1881	"	J. H Faison (D)	Faison.
1881	"	H. B. Weaver	Asheville.
1881	"	A. J. Battle	Earpsboro.
1881	"	J. H. Williams	Asheville.
1882	"	J. R. Irwin	Craft.
1882	"	A. K. Wilson	Greensboro.

1882	Dr	K. P. Battle	Raleigh.
1882	"	H. B. Ferguson	Halifax.
1882	"	J. T. Strickland	Roanoke, Va.
1882	"	R. S. Young	Concord.
1882	"	M C. Hunter	Huntersville.
1882	"	C. A. Meisenheimer	Charlotte.
1882	"	W. P. Whittington	Asheville.
1883	"	W. W. Faison	Goldsboro.
1883	"	W. O. McDowell	Scotland Neck.
1883	"	N. H. Street	Newbern.
1883	"	J. A. Stevens	Clinton.
1883	"	T. S Royster	Townesville.
1883	"	I. M. Taylor	Morganton.
1883	"	W. L. Hudson	Hawley's Store.
1883	"	Oscar Gregory	Oxford.
1883	"	F. R. Harris	Henderson.
1883	"	H. H. Whitaker	Old Sparta.
1883	"	G. C. Edwards	Hookerton.
1883	"	E. M. Summerell	Mill Bridge.
1883	"	K. M. Ferguson	Cameron.
1883	"	P. J. Macon	Warrenton.
1883	"	N M. McLeam	Gibson's Station.
1883	"	F. C. James	Bethel.
1883	"	J. C. Braswell	Whitakers.
1883	"	G. L. Wimberly, Jr	Rocky Mount
1883	"	B. L. Long	Hamilton.
1884	"	W. G. Freeman	Murfreesboro.
1884	"	W. C. Whitfield	Sladesville
1884	"	J. A. Burroughs	Asheville.
1884	"	F. W. Brown	Greenville.
1884	"	J. W. Long	Richmond, Va.
1884	"	M P. Perry	Macon.
1884	"	Wm. Edwards	Hunts.
1884	"	G J. Robinson	Smithfield.
1884	"	M. R. Adams	Statesville.
1884	"	G. T. Sikes	Grissom.
1884	"	W. B Pritchard	355 W. 58th St. N. Y.
1884	"	J. M. Manning	Durham.
1884	"	F. T. Fuller	Raleigh.
1884	"	H. P. Murray	Salisbury.
1884	"	V. A. Whitley	Norwood.
1884	"	G. W. Purefoy	Asheville.
1884	"	M. H. Futrell	Conway.
1884	"	B. F. McMillan	Plainview.
1884	"	J. E. Grimsley	Snow Hill.
1884	"	A. M. Herron	Charlotte.
1885	"	W. N. Hicks	Fish Dam.
1885	"	L. P. Sorrell	Kelvin Grove.
1885	"	J. C. Whiteside	Newton.
1885	"	W H. Wilson	Gastonia.
1885	"	L. M. Archey	Concord.
1885	"	W. E. Powell	Gastonia.
1885	"	J. B. Powers	Wake Forest.
1885	"	F. W. Hughes	Newbern.
1885	"	L. L. Sasser	Smithfield.
1885	"	E. W. Pugh	Windsor.
1885	"	W. L Best	Johnson's Mill.
1885	"	S. D. Booth	Oxford.
1885	"	J. H. Benton	Newton Grove.
1885	"	A. P. Dickson	Vollers.
1885	"	Patrick Booth	Oxford.
1885	"	R. T. Spencer	Chalk Level.
1885	"	J. A. Hodges	Richmond, Va.
1885	"	Annie L. Alexander	Charlotte.
1885	"	J. T. Nicholson	Bath.
1885	"	J M. Hays	Greensboro.
1885	"	A. T. Cotten	Morrisville.
1885	"	A. D. York	Morrisville

1885	Dr. J. P. McKay	Averasboro.
1885	" S. L. Montgomery	Concord.
1885	" K. Leggett	Hobgood.
1885	" J. M Faison	Faison.
1885	" J. W. McGee	Raleigh.
1885	" A. W. Dorsett	Bethany.
1885	" D. G. Caldwell	Tulin.
1885	" J. M. Emmett	Oxford.
1885	" W. B. Crisp	Cliffdale (?)
1885	" J. M O'Kelly	Williams' Mills.
1885	" J. A. Wise	Roxboro.
1885	" M. F. Fox	Greensboro.
1885	" D T. Tayloe	Washington.
1885	" Zeno Brown	Greenville.
1885	" F. W. Ritter	Moyock.
1885	" S. R. Hardee	Moriah.
1885	" Mayland Bolton	Rich Square.
1885	" W. E. Turlington	Benson.
1885	" S. T. Nicholson	Washington.
1885	" Fleet J. Cooper	Hives.
1886	" H. C. Jackson (D)	Pittsboro.
1886	" G. H. Dodd	Clayton.
1886	" D. B. Zollicoffer	Garysburg.
1886	" E. Rose Dorsett	Salisbury.
1886	" R. W. Thomas (D)	Durham
1886	" B. S. Utley	Holly Springs.
1886	" R. A. Whitaker	Trenton.
1886	" M. W. Harper	Dunn.
1886	" H. T. Chapin	Pittsboro.
1886	" H. H. Harris	Wake Forest.
1886	" S. C. McClure	
1887	" O D. King	Albemarle.
1887	" W. D Pemberton	Monroe.
1887	" S. S. Daniel	Winton.
1887	" A W. Goodwin	Raleigh.
1887	" W. H. Bagwell	Greenville.
1887	" J. M. Gallagher	Washington.
1887	" H. W. Lewis	Jackson.
1887	" Henry H Dodson	Milton.
1887	" S W. Battle. U. S N	Asheville.
1887	" J. F. Beall	Linwood.
1887	" W. L. Crouse	Lincolnton.
1887	" Joe Hill	Arcadia.
1887	" J. H. Way	Waynesville
1887	" R. H. Stancell	Margarettesville.
1887	" R. A. Patterson	Aurelian Springs.
1887	" J. McDeArmond	Mint Hill.
1887	" J H. Bingham (D)	Fennimore.
1887	" R. J. Brevard	Charlotte
1887	" D. McBryde	Maxton.
1887	" E. C. Register	Charlotte.
1887	" R. W. Tate	Greensboro.
1887	" J. D. Croom	Maxton.
1887	" D. C Parris	Hillsboro.
1887	" W. P. Craven.	Martindale
1888	" J. R Pearsall (D)	Manchester.
1888	" J. C. Grady	Mt Olive.
1888	" J. A. Faison	Wilmington
1888	" A. McDougald	Cumberland Mills.
1888	" W Josephus Jones (D)	Clayton
1888	" W. J. Lumsden	Elizabeth City.
1888	" G. H. Moran	Morganton.
1888	" N. B Herring	Wilson
1888	" Jas. W. McGee, Jr	Raleigh.
1888	" Arch. McKinnon	Lumber Bridge.
1888	" Duncan Smith	Athens.
1888	" M. McI Tatum	Winnie
1888	" S. A. Henley	Asheboro.

1888	Dr.	W. A. Monroe	Waxhaw.
1888	"	H. B. Marriott	Battleboro.
1888	"	C. B. Woodley	Kinston.
1888	"	J. E. Brothers	Wilson.
1888	"	W. S. Anderson	Wilson.
1888	"	A. R. Zollicoffer	Weldon.
1888	"	J. G. Brodnax	Greensboro.
1888	"	Duncan Sinclair	Rowland.
1888	"	J. B. Ashcroft	Monroe.
1888	"	E. H. McCullers	Clayton.
1888	"	C H. Lewis	Farmers.
1888	"	E. B. Goelet	Saluda.
1888	"	T. T. Ferree	Worthville.
1888	"	B. T. Cox	Redallia.
1888	"	A. Cheatham	Durham.
1888	"	A. S. Harrison	Ringwood.
1888	"	Jenness Morrill	Farmville.
1888	"	Thomas Stamps	Lumber Bridge.
1888	"	T. P. Wynn	Tarboro.
1889	"	Isaac Jackson	Whiteville.
1889	"	J. T. J. Battle	Wadesboro.
1889	"	W. V. McCauless	Danbury.
1889	"	Oscar McMullen	Elizabeth City.
1889	"	J. E. Wood	Elizabeth City.
1889	"	W. W. Griggs	Elizabeth City.
1889	"	R N. Cartwright	Elizabeth City.
1889	"	Albert Anderson	Wilson.
1889	"	E. B. Ferebee	Belcross.
1889	"	W. B. Fearing	Poplar Branch.
1890	"	J. W. Booth	Stem.
1890	"	Jno. Sweaney	Berea.
1890	"	W. G. Stafford	Burlington.
1890	"	J S. Lafferty	Concord.
1890	"	B. W. Hathaway	Avoca.
1890	"	T. L. Booth	Stem
1890	"	J. H. Marsh	Fayetteville.
1890	"	L. A Hanks	Pittsboro.
1890	"	P. B. Loftin	Bell's Ferry.
1890	"	R. L. Gibbon	Charlotte.
1890	"	W. A. Graham	Charlotte.
1890	"	R. B. Henderson	Wilton.
1890	"	J. L Ray	Burnsville.
1890	"	C. E. Hilliard	Asheville.
1890	"	Samuel H. Cannady	Oxford.
1890	"	J. C. Kirkman	Mt. Vernon Springs.
1890	"	W. H. Harrell	Williamston.
1890	"	W B. Crawford	Lexington.
1890	"	J L. Egerton	Hendersonville.
1890	"	I. G. Riddick	Youngsville.
1890	"	Wm. H. Cobb, Jr.	Raleigh.
1890	"	J. W. White	Wilkesboro.
1890	"	E. G. Moore	Elm City.
1890	"	J. P. Fearrington	Faison.
1890	"	J. J. Mann	Nashville.
1890	"	E. R. Michaux	Greensboro.
1890	"	M. R. Braswell	Rocky Mount.
1890	"	B. Chears	Thomasville.
1890	"	I M. Lynn	Earpsboro.
1890	"	J. N. Peace	Creedmore.
1890	"	Jas R. Rogers	Apex.
1890	"	E. P. Snipes	Jonesboro.
1890	"	E. C. Laird	Haw River.
1890	"	J. P. Munroe	Davidson College.
1890	"	R. A Martin	Roxboro.
1890	"	R. D. Jewett	Wilmington.
1891	"	J. B. H. Knight	Williamston.
1891	"	J. G. Waldrop	Hendersonville.
1891	"	C. Few	Hendersonville.

1891	Dr. J. R. Pope	Scotland Neck.
1891	" M C. Kimbrough	Smith Grove.
1891	" W. F Chenault	Elmwood.
1891	" C. G. Nichols	Roxboro.
1891	" P. J. Klutz	Maiden.
1891	" T. J. Wilson	Chapel Hill.
1891	" W. M. Flow (D)	Flows.
1891	" Richard H. Whitehead	Chapel Hill.
1891	" Jos. L. Laxton	Morganton.
1891	" Karl von Ruck	Asheville.
1891	" D. A. Stanton	High Point.
1891	" W. P. Ivey	Lenoir.
1891	" A. M. Ballard	Asheville.
1891	" W. W. Clarke	Bryson City.
1891	" Jas. A. Turner	Little's Mills.
1891	" R. A. Freeman	Burlington.
1891	" J. Wellington Byers	Charlotte.
1891	" H. Lonstreet Taylor	Asheville.
1891	" J. F. Sanderford	Creedmore.
1891	" H. L. McFadyen	Waynesville.
1891	" A. O. Jones	Rogers Store.
1891	" D. I. Watson	Southport.
1891	" C P. Ambler	Asheville.
1891	" R. L. Walker	Crab Tree.
1891	" R. C. Ellis	Waynesville.
1891	" D. F. Summey	Leicester.
1811	" C. Daligny	Newhope Academy.
1891	" R B. Baker	Hickory.
1891	" J. H. Wolff	Sylva
1891	" L. S. Flow (D)	Mt. Pleasant.
1891	" W. E. Headen	Pittsboro.
1891	" W. J. Kloutz	Alexander.
1891	" E. Q. Houston	Davidson College.
1891	" D. W. Courts	Reidsville.
1891	" A. J. Monroe	Jonesboro.
1891	" J. Y. Fitzgerald	Concord.
1891	" J. A. Watson	Asheville.
1881	" W. H. Wilson	Gastonia.
1891	" H K. Edgerton	Selma.
1891	" J. T. Reid	Old Fort.
1891	" J. M. McCorkle	Newton.
1891	" J. C. Black	Pioneer Mills.
1891	" R. W. Palmer	Gulf.
1892	" J. Alston Nicholson	Washington.
1892	" E. L. Cox	Jacksonville.
1892	" W. J. Harrell	Aulander.
1892	" P. R. Hatch	Youngsville.
1892	" G. L. Clark	Clarkton.
1892	" R. W. Mills	Troutmans.
1892	" Russell Bellamy	Wilmington.
1892	" W. F. Stokes	Wilmington.
1892	" W. V. McCauless	Danbury.
1892	" C. G. Carter	Madison.
1892	" A. G. Jones	Walnut Cove.
1892	" Wade H. Atkinson	Selma.
1892	" G. V. Cate	Taylor's Bridge.
1892	" Silas P. Wright	Wilmington.
1892	" K. A. Blue	Laurinburg.
1892	" H. Johnson	Grifton.
1792	" A. J. Patterson	Liberty.
1892	" F. P. Gates	Bayboro.
1892	" W. R. Mayo	Jamesville.
1882	" W. E. Fitch	Graham.
1892	" C. B. Ingram	Mt. Gilead.
1892	" T. S. McMullan	Hertford.
1892	" J. B. Shamburger	Candor.

1892	Dr. Wm. D. McMillan	Magnolia.
1892	" G. M. Hackles	Mars Hill.
1892	" E. G. Goodman	El Paso.
1892	" M. E. Gattis	Auburn.
1892	" J. Thomas Wright	Salisbury.
1893	" R. H. Stancell, Jr	Margarettsville.
1893	" B. W. Burt	Enno.
1893	" T. B. Williams	Ridgeway.
1893	" J. R. Anderson	Morganton.
1893	" M. F. Morphew	Marion.
1893	" J. F. Highsmith	Fayetteville.
1893	" G. M. Bell	Wakefield.
1893	" J. R. Wheless	Centreville.
1893	" W. B. Bullock	Franklinton.
1893	" J. C. Jenkins	Everetts.
1893	" J. A. Matthews	Castalia.
1893	" F. H. Seawell	Archer Lodge.
1893	" R J. Nelson	Robersonville.
1893	" H. F. Long	Statesville.
1893	" M. W. Gibson	Taylorsville.
1893	" Albert Houck	Lenoir.
1893	" J. P. Brown	Ashpole.
1893	" S. Hassell	Roper.
1893	" J. J. L. McCullers	Raleigh.
1893	" I. N. Ramsay	Seaboard.
1893	" W. R. Galey	Graham.
1893	" J. M. Flippin	Thomasville
1893	" C. A. Julian	Thomasville.
1893	" Jas. T. Rieves	Julian.
1893	" B. B. Williams	Keyser.
1893	" W. H. Wakefield	Winston.
1893	" C. M Benton	Newton Grove.
1893	" R. J. Grimes	Bethel.
1893	" E. F. Strickland	Bethania.
1893	" H. C. Williams	Aberdeen.
1893	" R. A. Moore	Moncure.
1893	" R. L. Davis	Bryson City.
1893	" W. H. Nicholson	Louisburg.
1893	" J E. Malone	Louisburg.
1893	" Robt. J Gill	Henderson.
1893	" R. L. Gattis	Belle Voir.
1893	" J. G. Blount	Washington.
1893	" G. A. Renn	Raleigh.
1893	" W. K. Hollingsworth	Mt. Airy.
1893	" W. J. Hill	Statesville.
1893	" J. H. Gibbon	Charlotte.
1893	" J. M. Templeton	Cary.
1893	" M. L. Stevens	Enochville.
1893	" C. N. Roberson	Ascend.
1893	" J. M. Sloan	Gastonia.

HONORARY MEMBERS.

Dr. J. D. Bellamy, Wilmington, N. C.
Dr. Thos. J. Moore, Richmond, Va.
Dr. John H. Hill, Goldsboro, N. C.
Dr. W. T. Howard, Baltimore, Md.
Dr. Hunter McGuire, Richmond, Va.
Prof. L. A. Sayer, M. D., New York.

HONORARY FELLOWS.

Date of Signing Constitution.		*At Session of*
1886	Dr. E. M. Littlejohn, Thomasville	1890
1887	Dr. J. M. Lawing, Lincolnton	1891
1855	Dr. J. G. Ramsay, Mt. Vernon	1893

LIST OF MEMBERS ALPHABETICALLY ARRANGED

Adams, M. R.	Statesville	1884
Alexander, Annie L.	Charlotte	1885
Alston, P. B.	Henderson	1868
Alston, Willis,	Littleton	1870
Ambler, C. P.	Asheville	1891
Anderson, Albert	Wilson	1889
Anderson, E. A.	Wilmington	1852
Anderson, T. E.	Statesville	1879
Anderson, J.	Calahan	1881
Anderson, J. R.	Morganton	1893
Anderson, W. S.	Wilson	1888
Archey, L. M	Concord	1885
Ashcroft, J. E.	Monroe	1888
Atkinson, W. H.	Selma	1892
Bagwell, W. H.	Greenville	1887
Bahnson, H. T.	Salem	1869
Baker, Julian M.	Tarboro	1879
Baker, R. B.	Hickory	1891
Ballard, A. M.	Asheville	1891
Barrier, P. A.	Mt. Pleasant	1867
Battle, A. J.	Earpsboro	1881
Battle, J. T. J.	Wadesboro	1889
Battle, K P. Jr.	Raleigh	1882
Battle, S. W.	Asheville	1887
Beall, J. F.	Linwood	1887
Beall, W. P.	Greensboro	1877
Bellamy, Russell	Wilmington	1892
Bellamy, W. J. H.	Wilmington	1870
Bell, J. M	Wakefield	1893
Benton, C. M.	Newton Grove	1893
Benton, J. H.	Newton Grove	1885
Best, W. L.	Johnson's Mill	1885
Bingham, J. H. (D)	Fennimore	1887
Black, J. C.	Pioneer Mills	1891
Blount, J. G.	Washington	1893
Blue, K. A.	Laurinburg	1392
Bodie, N. P.	Durham	1883
Bolton, Mayland	Rich Square	1885
Booth, J. W.	Stem	1890
Booth, Patrick	Oxford	1885
Booth, S D.	"	1885
Booth, T. J.	Tally-Ho	1890
Booth, T. L.	Stem	1890

Bradsher, C. E. (D)	Durham	1879
Braswell, J. C	Whitakers	1883
Braswell, M. R	Rocky Mount	1890
Brevard, R. J	Charlotte	1887
Brodnax, J. G	Greensboro	1888
Brothers, J. E	Wilson	1888
Brown, F. W	Greenville	1884
Brown, J. P	Ashpole	1893
Brown, Zeno	Greenville	1885
Bullock, W. B	Franklinton	1893
Bulluck, D. W	Wilmington	1875
Burbank, T. S	"	1880
Burroughs, J. A	Asheville	1884
Burt, B. W	Enno	1893
Byers, J. W	Charlotte	1891
Cain, D. J. (D)	Asheville	1881
Caldwell, D. G	Tulin	1885
Cannady, S. H	Oxford	1890
Carr, A G	Durham	1873
Carter, C. G	Madison	1892
Cartright, R. N	Elizabeth City	1889
Cate, G. V	Taylor's Bridge	1892
Chapin, H. T	Pittsboro	1886
Chears, B	Thomasville	1890
Cheatham, A	Durham	1888
Cheatham, W. T	Henderson	1868
Chenault, W. F	Elmwood	1891
Clark, G. L	Clarkton	1892
Clark, W. W	Bryson City	1891
Cloutz, W. J	Alexander	1891
Cobb, W. H. H	Goldsboro	1878
Cobb, W. H., Jr	Raleigh	1890
Collins, J. A	Enfield	1880
Cooper, Fleet J	Hives	1885
Cotten, A. T	Morrisville	1885
Courts, D. W	Reidsville	1891
Covington, J. M	Rockingham	1879
Cox, B. T	Redallia	1888
Cox, E. L	Jacksonville	1892
Cox. J. J	High Point	1879
Craven, W. P	Martindale	1887
Crawford, W. B	Lexington	1890
Crisp, W. B	Cliffdale	1885
Croom, J. D	Maxton	1887
Crouse, W. L	Lincolnton	1887
Crowell, E	"	1881
Crump, W. L	South River	1881
Daligny, C	Newhope Academy	1891
Daniel, S. S	Winton	1887
Davis, R. L	Brysan City	1893
DeArmond, J. Mc	Mint Hill	1887

Dickson, A. P.....Vollers.....1885
Dodd, G. H.....Clayton.....1886
Dodson, H. H.....Milton.....1887
Dorsett, A. W.....Bethany.....1885
Dorsett, E. Rose.....Salisbury.....1886
Duffy, Charles.....Newbern.....1870
Duffy, Francis.....“.....1872
Dunn. J. B.....Raleigh.....1849

Ector, I. G.....Friendship.....1879
Edgerton, H. K.....Selma.....1891
Edwards, G. C.....Hookerton.....1883
Edwards, Wm.....Hunts.....1884
Egerton, J. L.....Hendersonville.....1890
Ellis, R. C.....Waynesville.....1891
Emmett. J. M.....Oxford.....1885

Faison, I. W.....Charlotte.....1878
Faison, J. A.....Wilmington.....1888
Faison, J. H. (D).....Faison.....1881
Faison. J. M.....“.....1885
Faison, W. W.....Goldsboro.....1883
Fearington, J. P.....Faison.....1890
Fearing, W. B.....Poplar Branch.....1889
Ferebee, E. B.....Bellcross.....1889
Ferguson. K. M.....Cameron.....1883
Ferree, T. T.....Worthville.....1888
Few, C.....Hendersonville.....1891
Fitch, W. E.....Graham.....1892
Fitzgerald, J. E.....Concord.....1891
Fletcher, G. W.....Fletchers.....1881
Fletcher, M. H.....Asheville.....1881
Flippin, J. M.....Thomasville.....1893
Flow, L. S (D).....Mt. Pleasant.....1891
Flow, W. M. (D).....Flows.....1891
Foote. G. A.....Warrenton.....1858
Fox, M. F.....Greensboro.....1885
Freemau, R. H.....Burlington.....1891
Freeman, W. G.....Murfreesboro.....1884
Fuller, F. T.....Raleigh.....1884
Furgerson, H. B.....Halifax.....1882
Futrell, M. H.....Conway.....1884

Gallagher, J. M.....Washington.....1887
Galloway, W. C.....Winston.....1880
Gates. F. P.....Bayboro.....1892
Gattis, M. E.....Auburn.....1892
Gattis, R L.....Belle Voir.....1893
Gibbon, John H.....Charlotte.....1893
Gibbon, Robert.....“.....1851
Gibbon, R. L.....“.....1890
Gibson, M. W.....Taylorsville.....1893
Gill, Robert J.....Henderson.....1893

Goelet, E. B.	Saluda	1888
Goley W. R.	Graham	1893
Goodman, E. G.	El Paso	1892
Goodwin, A. W.	Raleigh	1887
Grady, J. C.	Mt. Olive	1888
Graham, Geo. W.	Charlotte	1877
Graham, Joseph	"	1874
Graham, W. A.	"	1890
Gregory, Oscar	Oxford	1883
Griggs, W. W.	Elizabeth City	1889
Grimes, R. J.	Bethel	1893
Grimsley, J. E.	Snow Hill	1884
Grissom, Eugene	Denver, Col	1859
Hackles, G. M.	Mars Hill	1892
Hadley, J. M.	LaGrange	1873
Haigh, T. D.	Fayetteville	1874
Hanks, L. A.	Pittsboro	1890
Hardee, S. R.	Moriah	1885
Hargrave, R. A.	Robersonville	1879
Harper, M. W.	Dunn	1886
Harrell, J. F.	Whiteville	1877
Harrell, W. H.	Williamston	1890
Harrell, W. J	Aulander	1892
Harris, F. R.	Henderson	1883
Harris, H. H.	Wake Forest	1886
Harris, T. W. (D)	Chapel Hill	1880
Harrison, A. S.	Ringwood	1888
Hassell, S.	Roper	1893
Hatch, P. R.	Youngsville	1892
Hathoway, B. W.	Avoca	1890
Hays, J. M.	Greensboro	1885
Haywood, E. B. (D)	Raleigh	1850
Haywood, F. J.	"	1868
Haywood, Hubert	"	1879
Headen, W. E.	Pittsboro	1891
Henderson, R. B.	Wilton	1890
Henley, S. A.	Asheboro	1888
Herman, F. L.	Conover	1891
Herring, N. B.	Wilson	1888
Herron, A. M.	Charlotte	1884
Hicks, W. N.	Fish Dam	1885
Highsmith, J. F.	Fayetteville	1893
Hilliard, C. E.	Asheville	1890
Hill, Joe	Arcadia	1887
Hill, Thomas	Goldsboro	1879
Hill, W. J.	Statesville	1893
Hines, P. E.	Raleigh	1855
Hodges, J. A.	Richmond, Va.	1885
Hollinsworth, W. K.	Mt. Airy	1893
Holmes, Alman	Clinton	1852
Hornaday, E. H.	Willow Green	1878
Houck, Albert	Lenoir	1893

Houston, E. Q.	Davidson	1891
Hudson, W. L.	Hawley's Store	1883
Hughes, F. W.	Newbern	1885
Hunter, L. W.	Charlotte	1880
Hunter, M. C.	Huntersville	1882
Ingram, C. B.	Mt. Gilead	1892
Ingram, W. A.	Wadesboro	1874
Irwin, J. R.	Alexandriana	1882
Ivey, W. P.	Lenoir	1891
Jackson, H. C. (D)	Pittsboro	1886
Jackson, Isaac	Whiteville	1889
James, F. C.	Bethel	1883
Jenkins, J. C.	Everetts	1893
Jewett, R. D.	Wilmington	1890
Johnson, H.	Grifton	1892
Jones, A. G.	Walnut Cove	1892
Jones, A. O.	Roger's Store	1891
Jones, J. W.	Tarboro	1860
Jones, W. J.	Goldsboro	1860
Jones, W. Josephus, (D)	Clayton	1888
Jones, S. B.	Charlotte	1879
Jordan, T. M.	Hookerton	1881
Julian, C. A.	Thomasville	1893
King, Ed. de la R.	Beaufort	1879
King, O. D.	Albemarle	1887
Kimbrough, M. C.	Smith Grove	1891
Kirby, Geo. L.	Goldsboro	1867
Kirkman, J. C.	Mt. Vernon Springs	1890
Klutz, P. J.	Maiden	1891
Knight, J. B. H.	Williamston	1891
Knox, A. W.	Raleigh	1880
Lafferty, J. S.	Concord	1890
Laird, C. E.	Haw River	1890
Lane, W. W.	Wilmington	1870
Laxton, J. L.	Morganton	1891
Lee, A. M.	Clinton	1877
Leggett, K.	Hobgood	1885
Lewis, C. H.	Farmers	1888
Lewis, H. W.	Jackson	1887
Lewis, R. H.	Raleigh	1877
Lilly, W. H.	Concord	1874
Loftin, P. B.	Bell's Ferry	1890
Long, B. L.	Hamilton	1883
Long, Geo. W.	Graham	1877
Long, H. F.	Statesville	1893
Long, J. W.	Richmond, Va.	1884
Love, Wm. J.	Wilmington	1870
Lucas, Geo. F.	Currie	1870
Lumsden, W. J.	Elizabeth City	1888
Lynn, I. M.	Earpsboro	1890

McBryde, D.	Maxton	1887
McCauless, W. V	Danbury	1892
McClelland, J. R.	Mooresville	1878
McClure, S. C.		1886
McCorkle, J. M.	Newton	1891
McCullers, E. H.	Clayton	1888
McCullers, J. J. L.	Raleigh	1893
McDonald, A. D.	Wilmington	1879
McDougald, A.	Cumberland Mills	1888
McDowell, W. O.	Scotland Neck	1883
McDuffie, W. C.	Fayetteville	1876
McFadyen, H. Q.	Waynesville	1891
McGee, J. W.	Raleigh	1885
McGee, J. W., Jr.	"	1888
McKay. J. P.	Averasboro	1885
McKee, James	Raleigh	1870
McKinnon, Ach	Chadbourn	1888
McKinnon, W. H.	Fayetteville	1876
McLean, N. M.	Gibson's Station	1883
McMillon, B. F.	Plain View	1884
McMillan, J. D.	Lumberton	1876
McMillan, W. D.	Magnolia	1892
McMullan, Oscar	Elizabeth City	1889
McMullan, T. S.	Hertford	1892
McMullen, J. H.	Edenton	1874
McNeill, J. W.	Fayetteville	1876
Macon, P. J.	Warrenton	1883
Malone, J. E.	Louisburg	1893
Manning, John M.	Durham	1884
Mann, J. J.	Nashville	1890
Marriott, H. B.	Battleboro	1888
Marsh, J. H.	Fayetteville	1890
Matthews, T. A.	Castalia	1893
Mayo, W. R.	Jamesville	1892
Meisenheimer, C. A.	Charlotte	1882
Meisenheimer, T. F.	Morven	1881
Mercer, W. P.	Elm City	1880
Michaux, E. R.	Greensboro	1890
Miller, J. F.	Goldsboro	1873
Mills, R. W.	Troutman	1892
Monroe, A J.	Jonesboro	1891
Monroe, J. P.	Davidson Coll	1890
Monroe, W. A.	Waxhaw	1888
Montague, S. J.	Winston	1880
Montgomery, S. L.	Concord	1885
Moore, E. G.	Elm City	1890
Moore, R. A.	Moncure	1893
Moran, G. H.	Morganton	1888
Morphew, M. F.	Marion	1893
Morrill, Jenness	Farmville	1888
Murphy, P. L.	Morganton	1873
Murray, H. P.	Salisbury	1884

Nelson, R. J.	Robersonville	1893
Nichols, C. G.	Roxboro	1891
Nicholson, J. L.	Richlands	1880
Nicholson, J. T.	Bath	1885
Nicholson, P. A.	Washington	1892
Nicholson, S. T.	"	1885
Nicholson, W. H.	Louisburg	1893
Noble, R. J.	Smithfield	1878
O'Donoghue, D.	Charlotte	1887
O'Hagan, Chas. J.	Greenville	1860
O'Kelly, J. M.	William's Mill	1885
Palmer, R. W.	Gulf	1891
Parris, D. C.	Hillsboro	1887
Pate, W. T.	Gibson's Station	1885
Patterson, A. J.	Liberty	1892
Patterson, R. A.	Aurelian Springs	1887
Payne, R. L.	Lexington	1859
Payne, R L., Jr.	"	1881
Peace, J N.	Creedmore	1890
Pearsall, J R. (D)	Manchester	1888
Pemberton, W. D.	Monroe	1887
Perry, M. P.	Macon	1884
Pharr, T. F.	Concord	1881
Picot, L. J.	Littleton	1875
Pierce, A. B.	Weldon	1852
Pittman, N. J. (D)	Tarboro	1850
Poole, C. M.	Salisbury	1880
Pope, J. R.	Scotland Neck	1891
Porter, Elisha	Rocky Point	1868
Potter, F. W. (D)	Wilmington	1877
Powell, W. E.	Castoria	1885
Powers, J. B.	Wake Forest.	1885
Prince, D. M.	Laurinburg	1879
Pritchard, W B.	355 W. 58th St. N. Y.	1884
Pugh, E. W.	Windsor	1885
Purefoy, G. W.	Asheville	1884
Ramsay, I. N.	Seaboard	1893
Ramsay, J. G.	Mt. Vernon	1855
Ray, J. L.	Brunsville	1890
Reagan, J A.	Weaverville	1881
Register, E. C.	Charlotte	1887
Reid, J. T.	Old Fort	1891
Renn, G. A.	Raleigh	1893
Riddick, I. G.	Youngsville	1890
Rieves, Jas. T.	Julian	1893
Ritter, F. W.	Moyock	1885
Roberson, C. N.	Ascend	1893
Roberts, J. D.	Durham	1877
Robertson, T. B. (D)	Neuse	1881
Robinson, G. J.	Smithfield	1884

Rogers, J. R.	Apex	1890
Royster, T. S.	Townesville	1883
Royster, W. I.	Raleigh	1871
Ruffin, J. K.	Wilson	1860
Sanderford, J. F.	Creedmore	1891
Sasser, L. L.	Smithfield	1885
Schonwald, J. T.	Wilmington	1880
Seawell, F. H.	Archer Lodge	1893
Sexton, J. A.	Raleigh	1879
Shaffner, J. F.	Salem	1867
Shamburger, J. B.	Candor	1892
Shepard, J. C.	Wilmington	1880
Sikes, G. T.	Grissom	1884
Sills, D. N.	Castalia	1875
Sinclair, Duncan	Rowlands	1888
Sloan, J M.	Gastonia	1893
Smith, Duncan	Athens	1888
Snipes, E. P.	Jonesboro	1890
Sorrell, L. P.	Kelvin Grove	1885
Speight, R. H	Wrendale	1875
Spencer, R. T.	Chalk Level	1885
Stafford, W. G.	Burlington	1888
Stamps, Thos.	Lumber Bridge	1888
Stancell, R. H.	Margarettsville	1887
Stancell, R. H., Jr.	Margarettsville	1893
Stansill, J. M.	Rockingham	1879
Stanton, J. A.	High Point	1891
Starms, E. C.	Asheville	1891
Staton, L. L.	Tarboro	1869
Stevens, J. A.	Clinton	1883
Stevens, M. L.	Enochville	1893
Steven, N. S.	Salem	1877
Stevenson, S. W.	Mooresville	1879
Stokes, W. F.	Wilmington	1892
Street, N. H.	Newbern	1883
Strickland, E. F.	Bethania	1893
Strickland, J. T.	Roanoke, Va.	1882
Summerell, E. M.	Mill Bridge	1883
Summerell, J. J. (D)	Salisbury	1855
Summey, D. F.	Leicester	1891
Sweany, Jno.	Berea	1890
Tate, R. W.	Greensboro	1887
Tatum, M. McI.	Winnie	1888
Tayloe, D. T.	Washington	1885
Taylor, H. L.	Asheville	1891
Taylor, I. M.	Morganton	1883
Templeton, Jas. M.	Cary	1893
Thomas, Geo. Gillett	Wilmington	1871
Thomas, R. W. (D)	Durham	1886
Thomas, R. W.	Thomasville	1880
Thorpe, F. J.	Rocky Mount	1875

Tucker, J. H.....Henderson..... 1878
Tull, Henry.....Kinston.....1876
Turlington, W. E.....Benson.....1885
Turner, J. A.....Little's Mills.....1891

Utley, R. S.....Holly Springs.....1886

Vick, J. W.....Selma.....1873
Von Ruck, Karl.....Asheville.....1891

Wakefield, W. H.....Winston.....1893
Waldrop, J. G.....Hendersouville.....1891
Walker, R. L.....Crabtree.....1891
Walton, J. C.....Reidsville.....1879
Watson, D. I.....Southport.....1891
Watson, J. A.....Asheville.....1891
Way, J. Howell.....Waynesville.....1887
Weaver, H. B.....Asheville.....1881
Wheless, J. R.....Centreville.....1893
Whitaker, R. A.....Trenton.....1885
Whitaker, H. H.....Old Sparta.....1883
Whitehead, John.....Salisbury.....1880
Whitehead, W. H.....Rocky Mount.....1875
Whitehead, R. H.....Chapel Hill.....1891
White, J. W.....Wilkesboro.....1890
Whiteside, J. C.....Newton.....1885
Whiteside, R. F.....Hickory.....1881
Whitfield, W. C.....Sladesville.....1884
Whitley, V. A.....Norwood.....1884
Whittington, W. P.....Asheville.....1882
Williams, B. B.....Keyser.....1893
Williams, J. H.....Asheville.....1881
Williams, T. B.....Ridgeway.....1893
Wilson, A. K.....Greensboro.....1882
Wilson, T. J.....Chapel Hill.....1891
Wilson, W. H.....Gastonia.....1885
Wimberly, G. L., Jr.....Rocky Mt.....1883
Winborne, R. H.....Barnitz.....1857
Winston, A.....Winter Haven, Fla.....1881
Wise, J. A.....Roxboro.....1885
Wolff, J. H.....Sylva.....1891
Wood, J. E.....Elizabeth City.....1889
Wood, Wm. R.....Raleigh.....1867
Woodley, C. B.....Kinston.....1888
Wright, J. T.....Salisbury.....1892
Wright, S. P.....Wilmington.....1892
Wynn, T. P.....Tarboro.....1888

York, A. D.....Morrisville.....1885
Young, R. S.....Concord.....1882

Zollicoffer, A. R.....Weldon.....1888
Zollicoffer, D. B.....Garysburg.....1886

INDEX.

Address of Welcome 3
President 6, 31
Committee on appointed 6
Report of 19
Anæmia, a case of 10
Annual Discussion—Rheumatism 11, 85
Oration 15
Appendicitis 11, 57
Applicants for License, relating to 6, 12
Board of Censors, report of 12, 13
to fill vacancy on 26
Examiners, report of 28
Cæsarean Section, case of 11, 99
Cerebro-Spinal Meningitis 8, 81
a remarkable case of 11, 121
Chairmen of Sections appointed 26
Committee on Credentials appointed 7
full report of 26
Duffy Prize appointed 13, 26
Finance appointed 7
report of 13
Legislation appointed 24
Nominations appointed 12
report of 16
Pittman Prize appointed 8
report of 18
Constitution, discussion on proposed 14, 18
Courts of Justice, the Physician in relation to 24, 116
Diphtheria, treatment of 16, 139
Election of Officers 17
Ergot in Obstetrics, rational use of 24, 95
Gregory, Dr. Oscar, letter from 7
relieved from dues 7
Gynæcology, report of 8, 68
Harden, Dr. J. H. 7
Leader of Debate appointed 26
Louisiana State Medical Society 7, 26
Medical and Chirurgical Faculty, delegates from 11

Members present, as registered..... 26
Memorial hour..... 20
Microscope in Every-Day Practice 24, 35
Microscopy and Pathology, report on.....24, 133
North Carolina Board of Health, Conjoint Session with..... 11
report of Secretary of.....12, 143
North Carolina Pharmaceutical Association, delegates from..... 8
Obstetrics, report on..... 10, 76
Pharmacist and the Physician, the..... 9
Pittman, Dr. N. J., resolutions of Sympathy to..... 7
Practice of Medicine, report on..... 8, 122
President, installation of..... 24
Ramsay, Dr. J. G..... 11
made Honorary Fellow..... 12
Resolutions of Thanks..... 24
Spicer, Dr. James, resigns..... 11
Suppurative Hepatitis..... 26, 43
State Medicine, report on.....24, 116
Therapeutics, report on..... 126
Time and place of meeting for 1894..... 17
Verbal Reports..... 24
Vis Naturæ..... 8. 109
White, Dr. Joseph A 8

CONSTITUTION AND BY-LAWS

—OF THE—

MEDICAL SOCIETY

—OF THE—

STATE OF NORTH CAROLINA.

REVISED MAY 10th, 1893.

CONSTITUTION.

ARTICLE I.

TITLE OF THE SOCIETY.

The name and title of this Society shall be "The Medical Society of the State of North Carolina."

ARTICLE II.

OBJECTS OF THE SOCIETY.

The objects of this Society shall be the advancement of medical knowledge, the elevation of professional character, and the promotion of all measures of a professional nature that are adapted to the relief of suffering humanity, and to improve the health and protect the lives of the community.

ARTICLE III.

MEMBERS OF THE SOCIETY.

SECTION 1.—This Society shall consist of Active and Honorary members, and Honorary Fellows.

SEC. 2.—The Active members shall consist of such regular physicians as have complied, or shall comply with the laws of the State, ratified February 28th, 1889, and who shall receive the approval of the Committee on Credentials and a two-thirds vote of the members present at the meeting at which their application for membership is presented. They shall be required to sign the Constitution and By-Laws of the Society, pay an initiation fee of five dollars, and shall be liable to such dues for defraying the expenses of the Society as the Society may, from year to year, agree upon.

SEC. 3.—The Honorary Members shall consist of such regular physicians as have won distinction by their contributions to medical science; those elderly physicians who, prior to their retirement from practice, have displayed a proper interest in the welfare of this Society, or who, by their example, have reflected credit and honor upon the profession. They must receive a two-thirds vote of the members present at the meeting at which their names are presented for election. They shall be exempt from all dues and fines and shall be entitled to all the privileges of the Society except the right to vote and hold office.

SEC. 4.—The Honorary Fellows shall consist of such physicians as have been members of this Society for thirty years, and whose dues have been paid during that time. They shall receive a two-thirds vote of the members present at the meeting at which their names are proposed for promotion. They shall be exempt from all dues and fines and shall be entitled to all the privileges enjoyed by active members in good standing.

ARTICLE IV.

OF THE OFFICERS.

SEC. 1.—The Officers of this Society shall be a President, four Vice-Presidents, a Corresponding and Recording Secretary and a Treasurer.

SEC. 2.—They shall be elected by ballot, on the afternoon of the second day of the session, a plurality of votes cast being sufficient for election, and shall serve for one year, except the Secretary and the Treasurer, who may serve for three years, or until his successor is elected.

SEC. 3.—Any nominee for the office of President shall have been an active member of the Society for five years, including the year of his election; shall have attended two of the three meetings immediately preceding his nomination, including the meeting at which he is nominated; and shall be a member in good standing at the time of his nomination.

ARTICLE V.

DUTIES OF THE OFFICERS.

SEC. 1—The President shall preside at the meetings, preserve order and perform such other duties as pertain to his office. He shall not be eligible for a second term.

SEC. 2.—The Vice-Presidents, in the order of their rank, shall assist the President in the performance of his duties, and during his absence, or at his request, shall officiate in his place. They shall not be eligible two terms in succession.

SEC. 3.—The Corresponding and Recording Secretary shall conduct the correspondence of the Society, and shall be the custodian of all papers belonging to the Society, except such as appertain to the Treasurer. He shall keep correct minutes of the proceedings of the Society, taking immediate possession of all papers read before the Society, and shall place them in the hands of the Publication Committee within thirty days after the adjournment of the Society. He shall advertise in two of the leading papers of the State, a month in advance all meetings of the Society; and shall, at the same time, mail to each member a notice of the time and place of the meeting, and shall perform all such other duties as usually appertain to his office. He shall receive such compensation as the Society may, from year to year, agree upon.

SEC. 4.—The Treasurer shall receive all monies belonging to the Society, and disburse them as directed, preserving vouchers for the same. He shall present annually a statement of the finances of the Society, which shall be referred to a committee of three members, who shall audit the same and report to the Society. He shall receive such compensation as the Society may, from year to year, agree upon.

ARTICLE VI.

OF THE BOARD OF MEDICAL EXAMINERS.

SEC. 1.—All elections to fill vacancies on the Board of Medical Examiners, shall be by ballot, a majority of the votes cast being necessary to elect. The election shall be held on the morning of the second day of the meeting.

SEC. 2.—In the case of vacancies caused by the expiration of term of office, the election shall be for six years, and shall be held during the meeting at which such terms of office shall expire. In the case of a vacancy caused by the death or resignation of a member, the election shall be to fill the unexpired term, and shall be held at the meeting during which the announcement of the vacancy shall be made.

ARTICLE VII.

OF COMMITTEES AND THEIR DUTIES.

SEC. 1. A committee of three members to be known as the *Committee on Credentials* shall be appointed by the President at the morning session of the first day of each meeting. Their duty shall be to investigate the character and standing of all applicants for membership in the Society, and receive the credentials of any Delegates from other State or District Societies, reporting to the Society the names of such physicians as they think proper. They may ask for instructions from the Society in any doubtful case. Their report shall be in order at any time during the session.

SEC. 2. A *Committee on Finance*, to consist of three members, shall be appointed by the President at the morning session of the first day of each meeting. They shall examine the accounts of the Treasurer and report to the Society, making suggestions as to the amount of assessments for the ensuing year, the remuneration of the Secretary and the Treasurer, and such other suggestions concerning the finances of the Society as they may think proper.

SEC. 3. A *Committee on Nominations*, to consist of five members, shall be appointed by the President at the morning session of the second day of each meeting. They shall nominate an *Orator*, an *Essayist*, a *Leader of Debate*, a *Committee on Publication*, an *Obituary Committee*, delegates to the American Medical Association, the Virginia Medical Association, the South Carolina Medical Association, and such other associations as the Society may determine, all to serve one year; also a Board of Censors, to consist of three members and to serve three years.

SEC. 4. The *Board of Censors* shall investigate the professional status of any member of the Society which shall be called in question and presented to them by charges and specifications. Upon the presentation of such charges and specifications they shall organize a medical court, before which the case shall be tried: *Provided*, however, that such Board of Censors shall be empowered to reconcile differences between members before going into a trial

of the case. Should a case come to trial they shall make a report of their investigations to the Society, with such recommendations as they deem necessary and proper.

ARTICLE VIII.

OF THE SECTIONS AND VOLUNTARY COMMUNICATIONS.

SEC. 1.—The newly installed President shall, at the last session of each meeting, appoint a member to serve as Chairman of each of the following sections, to wit: Anatomy and Surgery, Therapeutics and Practice of Medicine, Physiology and Materia Medica, Obstetrics, Gynecology, Medical Jurisprudence and State Medicine, Pathology and Microscopy.

SEC. 2.—At any time after the meeting the Chairman of each section may appoint three such members as he may select as his assistants to work up such items as he may designate, confining himself to the general advancements in his section.

SEC. 3.—The chairmen of sections shall send in to the Secretary, not later than thirty days previous to each meeting of the Society, the titles of papers to be presented by themselves and their assistants to be used by the secretary in making a programme for the meeting.

SEC. 4—No paper shall be read before the Society unless the author be present, unless his absence be due to some unavoidable circumstance. A paper presented by proxy may be referred to the Committee on Publication.

SEC. 5.—No paper shall be referred to the Committee on Publication until it has been placed in the hands of the Secretary; and the Secretary shall not return any paper accepted by the Society without the consent of the Society, and then he shall take a receipt for the same.

SEC. 6.—No paper shall be received by or read before this Society that has been presented to any other Society, or that has been offered for publication in any journal; and in the case of any paper accepted the author is supposed to have invested with the Society all rights to its ownership.

SEC. 7.—No paper shall be published in the Transactions of this Society unless approved by the Committee on Publication; and any paper rejected by said Committee shall be returned to the author through the Secretary of the Society.

SEC. 8.—It is to be understood that the Society is not to be considered as endorsing all the views and opinions advanced by the authors of papers published in the Transactions of the Society.

ARTICLE IX.

OF THE FUNDS.

SEC. 1.—Funds for defraying the expenses of the Society shall be raised by annual assessments on the active members.

SEC. 2.—Each active member shall, after being duly elected and signing

the Constitution, pay the sum of five dollars as an admission fee, and be subject to the annual assessment of the Society, except for the year of his admission.

SEC. 3.—Should an active member fail to pay the annual assessment two years in succession, he shall be notified by the Treasurer of his delinquency, and if, after this notice, he does not pay his arrearage within sixty days, the Treasurer shall send his name to the Secretary and the member shall not be entitled to receive the Transactions until all dues are paid.

SEC. 4.—Should a member be in arrears for four years and fail to pay after due notice from the Treasurer, his name shall be dropped. *Provided*, he may be re-instated at any meeting after endorsement by the Committee on Credentials, and on the payment of five dollars; and so retain his place on the roll as formerly. But this payment shall not entitle the member to receive the volumes of the Transactions that he has forfeited.

ARTICLE X.

MEETINGS OF THE SOCIETY.

The Society shall hold its meetings annually. The time and place of meeting shall be determined for each succeeding year by a vote of the Society.

ARTICLE XI.

OF THE CODE OF ETHICS.

The Society adopts, as a part of its regulations, that part of the code of Ethics of the American Medical Association which is published by its order.

ARTICLE XII.

PROVISIONS FOR AMENDMENTS.

Any proposition for amending this Constitution shall be presented in writing, and shall lay over to be acted upon at the succeeding meeting of the Society. If it receives a majority of the votes cast it shall be adopted.

BY-LAWS.

OF THE ORDER OF BUSINESS.

1.—The President, or, in his absence, one of the Vice Presidents in the order of their rank, shall call the Society to order; or in the absence of all these officers a presiding officer shall be chosen by a majority of the members present.

2.—The appointment of a Committee on Credentials and the Committee on Finance.

3.—Report of Committee on Credentials.

4.—Roll call.

5.—Reading of President's message.

6.—Any business requiring early attention may, by permission, be introduced.

7.—Correspondence shall be read by the Secretary.

8.—Written communications upon medical subjects may be read and discussed. This shall include reports from sections as arranged each year by programme.

9.—Oral communications may be made and discussed.

10.—Election of officers.

11.—The selection of a place for the next annual meeting of the Society.

12.—Unfinished business.

13.—Adjournment.

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